

COAL-BASED GENERATION RELIABILITY

HEARING
BEFORE THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED NINTH CONGRESS

SECOND SESSION

TO

RECEIVE TESTIMONY REGARDING THE OUTLOOK FOR GROWTH OF
COAL FIRED ELECTRIC GENERATION AND WHETHER SUFFICIENT
SUPPLIES OF COAL WILL BE AVAILABLE TO SUPPLY ELECTRIC GEN-
ERATORS ON A TIMELY BASIS BOTH IN THE NEAR TERM AND IN THE
FUTURE

MAY 25, 2006



Printed for the use of the
Committee on Energy and Natural Resources

U.S. GOVERNMENT PRINTING OFFICE
30-201 PDF

WASHINGTON : 2006

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2250 Mail: Stop SSOP, Washington, DC 20402-0001

COMMITTEE ON ENERGY AND NATURAL RESOURCES

PETE V. DOMENICI, New Mexico, *Chairman*

LARRY E. CRAIG, Idaho	JEFF BINGAMAN, New Mexico
CRAIG THOMAS, Wyoming	DANIEL K. AKAKA, Hawaii
LAMAR ALEXANDER, Tennessee	BYRON L. DORGAN, North Dakota
LISA MURKOWSKI, Alaska	RON WYDEN, Oregon
RICHARD BURR, North Carolina	TIM JOHNSON, South Dakota
MEL MARTINEZ, Florida	MARY L. LANDRIEU, Louisiana
JAMES M. TALENT, Missouri	DIANNE FEINSTEIN, California
CONRAD BURNS, Montana	MARIA CANTWELL, Washington
GEORGE ALLEN, Virginia	KEN SALAZAR, Colorado
GORDON SMITH, Oregon	ROBERT MENENDEZ, New Jersey
JIM BUNNING, Kentucky	

BRUCE M. EVANS, *Staff Director*

JUDITH K. PENSABENE, *Chief Counsel*

ROBERT M. SIMON, *Democratic Staff Director*

SAM E. FOWLER, *Democratic Chief Counsel*

JOHN PESCHKE, *Professional Staff Member*

JENNIFER MICHAEL, *Democratic Professional Staff Member*

CONTENTS

STATEMENTS

	Page
Burns, Hon. Conrad, U.S. Senator from Montana	3
Domenici, Hon. Pete V., U.S. Senator from New Mexico	1
Dorgan, Hon. Byron L., U.S. Senator from North Dakota	4
Gruenspecht, Dr. Howard, Deputy Administrator, Energy Information Administration, Department of Energy	5
Hamberger, Edward R., President and CEO, Association of American Railroads	44
Jackson, Steven, Director, Power Supply, Municipal Electric Authority of Georgia, Atlanta, GA	25
Johnson, Hon. Tim, U.S. Senator from South Dakota	2
Landrieu, Hon. Mary L., U.S. Senator from Louisiana	61
McLennan, Robert "Mac", Vice President, External Affairs, Tri-State Generation and Transmission Association, Westminster, CO	19
Sahr, Robert K., Chairman, South Dakota Public Utilities Commission, Pierre, SD, on behalf of the National Association of Regulatory Utility Commissioners	38
Thomas, Hon. Craig, U.S. Senator from Wyoming	2
Wilks, David, President of Energy Supply, Xcel Energy, Minneapolis, MN, on behalf of the Edison Electric Institute and Consumers United for Rail Equity	31

APPENDIXES

APPENDIX I

Responses to additional questions	75
---	----

APPENDIX II

Additional material submitted for the record	95
--	----

COAL-BASED GENERATION RELIABILITY

THURSDAY, MAY 25, 2006

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:06 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Pete V. Domenici, chairman, presiding.

OPENING STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. The hearing will please come to order.

I understand Senator Bingaman will be just slightly later than I this morning. He will be along here shortly. He apologizes to all of you for being late.

I understand that members wanted to make statements, and we will all get a chance to do that.

Votes were scheduled to go this afternoon, but I understand they have changed, that there will be a vote this morning 20 minutes from now. We will do our best, but we are going to have this hearing. Do not worry.

The purpose of today's oversight hearing is to receive testimony on the reliability of coal-based electric generation in the short term and in the future.

According to the EIA, coal has fueled about half of this Nation's electricity for the past 50 years, and the use of coal is expected to grow. The EIA estimates coal will supply 57 percent of our electricity needs by the year 2030. That is substantially up.

In the Energy Policy Act of 2005, Congress promoted coal technologies, such as the integrated coal gasification combined cycle, or the IGCC systems, and the Department of Energy continues to move forward with FutureGen projects.

Coal is a resource that this country has in abundance, with 25 percent of the total world reserves. The United States has been dubbed the Saudi Arabia of coal.

In order to maintain coal as a reliable resource, we must be able to move coal from the mines to the generating plants. More and more, the country is relying on low sulfur coal from the Powder River Basin in Wyoming and Montana to meet Clean Air Act requirements. Rail transportation is responsible for moving the coal for a majority of this load. With last year's train derailments, the dependence on a reliable transportation system was highlighted. Some utilities were caught with low stocks of supplies and were forced to dramatically curtail generation. This, in turn, led to ex-

pensive replacement power, with the cost passed on to the end customer.

Now, we are not here to place blame on the railroads. That is not our purpose. I was pleased to learn of their recent announcement to invest \$100 million in a joint line that serves the Powder River Basin, but we are here today to learn about the anticipated increase in demand for coal energy, what if any obstacles exist for the delivery of coal for generation purposes, and how such obstacles can be addressed.

Let me introduce our witnesses today before the committee. They are Howard Gruenspecht, Deputy Administrator of the Energy Information Administration. Thank you for coming. Mac McLennan on behalf of the Tri-State Generation and Transmission Association; David Wilks on behalf of both the Consumers United for Rail Equity and the Edison Electric Institute; Steven Jackson on behalf of the Municipal Electric Authority of Georgia; and the Honorable Robert Sahr, chairman of the South Dakota PUC, on behalf of the National Association of Regulatory Utility Commissioners; and Edward Hamberger, president and CEO of the Association of American Railroads.

Before these witnesses start, starting with you, Doctor, I am going to ask the Senators if they would like to comment. We are going to start by whether you would like to open on your side, Senator.

**STATEMENT OF HON. TIM JOHNSON, U.S. SENATOR FROM
SOUTH DAKOTA**

Senator JOHNSON. Yes, thank you, Mr. Chairman, and I will be brief here because we want to get on with the hearing, and we do have some time constraints with votes coming up.

I also want to apologize that I have a simultaneous markup hearing going on in the Banking Committee, so I am going to be back and forth.

But I appreciate your work, as well as that of ranking member Bingaman, on agreeing to today's hearing on ensuring the reliability of coal-based electrical generation. Before we hear from today's witnesses, I would like to recognize Bob Sahr, who is appearing before the committee today and testifying on behalf of the National Association of Regulatory Utility Commissioners. As you noted, Bob is the chairman of the South Dakota Public Utilities Commission. I appreciate his testimony and how consumers, the environment, the economy are strengthened by reliable electrical generation from coal.

Thank you Mr. Chairman.

The CHAIRMAN. Thank you.

On this side, Senator Thomas, and then we will move to the Senator from Montana.

**STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR
FROM WYOMING**

Senator THOMAS. I think you covered the reason for our hearing and it is very important, of course. As you indicated, half of our generation for electricity now is done by coal, and about 40 percent of that comes from the Powder River Basin, much of it from Wyoming. So that is even better.

Sixty percent of the price paid for coal is transportation cost, and so we are going to be faced with making some changes and some ideas for getting more transportation available. Are we going to have to do more minemouth generation and other kinds of things? So we are faced with some real issues.

So I am delighted that you are here today, and we really have a problem that we need to deal with and, frankly, have not done much about it until now. So we need to be doing it.

I am particularly pleased to have Mac McLennan here who is with Tri-State Generation, a rural electric, in Wyoming and in Colorado and which I have been involved in in the past and so on. So welcome.

Thank you, Mr. Chairman.
The CHAIRMAN. Thank you.

**STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR
FROM MONTANA**

Senator BURNS. Thank you, Mr. Chairman. I want to extend my personal thanks to you for holding this hearing today.

I brought up this issue with you and we had discussions about—we would talk about—all forms of generation of electricity and our responsibility to make sure that the system is reliable and also cost effective and all of this. But we have never, I do not think, had the conversation in this Energy Committee about the delivery system or the infrastructure it takes to produce electricity.

It is very important to my State, Senator Thomas, of course, and his Powder River Basin and ours in Montana. We are blessed in this country with having immense reserves of coal to help us meet the goal of our customers. Coal-fired electric generation is a vital component to all of us, as you know, and with that, it means we have to have some sort of delivery system from the mine to where the power is generated.

In a Nation that is as vast as ours, a healthy and efficient delivery system is essential to our economy. Of course, when we talk about delivery systems, we talk about the rails. For a State like Montana and especially if you are in a State like Montana, not only coal, but other products that ship from our State, anytime that you are in the business of selling wholesale, buying retail, and paying the freight both ways, we feel the effects right away.

I think the problem is capacity and also the efficiency of moving our coal to our generating sites. I would hope that we would look at that today, look at the impact. In some cases monopoly power exists. I think we have talked about everything in energy but the component of getting the coal from the ground on to a delivery system and to our powerplants.

So, Mr. Chairman, thank you very much for holding this hearing today. I appreciate that very much. I think we are going to find some information here that is pretty revealing to those of us who work in this 17 square miles of logic-free environment. On the ground, it is a little bit different kind of a situation, and we realize that. So thank you very much for holding these hearings.

The CHAIRMAN. Senator, I hope we get the information that you have been seeking, and I hope if we have not, that you push us and we get it. However, we ought to get the information that you have

been telling us the public is entitled to have. That is why we are having this hearing. This is not about trying to hide anything. This is trying to get out in the public the problems we are having in your area, and you want to get some answers, as I understand it, as to why problems are not getting solved. Is that correct?

Senator BURNS. That is correct.

The CHAIRMAN. We are going to try to see if we can do that.

Would you please proceed with your testimony?

Senator DORGAN. Mr. Chairman?

The CHAIRMAN. Oh, excuse me. You just arrived, Senator. I did not see you. You may make your opening remarks, Senator.

**STATEMENT OF HON. BYRON L. DORGAN, U.S. SENATOR
FROM NORTH DAKOTA**

Senator DORGAN. Mr. Chairman, thank you very much. I have been delayed. We have Indian Affairs Committee hearings going on and a Commerce Committee hearing in a bit.

Thank you for holding this hearing. I agree with my two colleagues, Senator Burns and Senator Johnson, the Senator from Wyoming as well. I did not hear his comments, but I assume that they are generally in line.

We have a lot of coal moving around our region. A fair amount of it comes from the Powder River Basin in Wyoming.

I know that I have made a mini career out of beating up the railroads. I do not know whether that is a successful career or not, but it was a mini career for me. It is not that I dislike railroads. It is that I dislike the concentration that has occurred, and I dislike the pricing policies from these railroads. I met with the CEO of a railroad yesterday to talk about a number of these things.

We have shipper issues. Senator Burns and I in the Commerce Committee have co-authored legislation with others dealing with these issues that shippers face. Much of it is agriculture, but some Main Street equipment dealers and others paying higher shipping prices than we believe is justifiable because there is not the kind of competition we would like to see.

But there is another element to this, in addition to what we have been striving to do over in the Commerce Committee with legislation that we have introduced, and that is the issue that goes beyond agriculture and Main Street and the other shippers. It deals with the shipments of coal, particularly coal in the area of energy. The coal-fired electricity that we produce in our region that supplies power to a pretty substantial area is as a result of being able to haul coal from its minemouth to an area where it can be used in a coal-fired electric generating plant, and the prices at which that coal is moved and also the service.

The service that has been available and expected and contracted for by the users has been of some great concern. Basin Electric and other utilities in our region—Basin Electric is a large power cooperative in our region. It serves well over a million customers, 1.8 million customers in the entire region, but the other investor-owned utilities as well have all been very concerned about this. They are captive shippers. They are not mom and pop operations. These are big operations, the energy companies, but they are also captive shippers. They are held captive by the transportation system.

I think it is perfectly appropriate for this committee to take a look at how does that system that feeds that coal to those energy plants fit with the need to produce this energy. Is that transportation system working well? Is it too concentrated? Are the rates unfair? Is the service what it is supposed to be? Will we ever be in a position where the coal is not moved and therefore the electric generation is not available?

So thanks for holding this hearing. I really appreciate it and I think that we will learn some interesting things from the testimony.

The CHAIRMAN. Thank you very much.

Now we will proceed to the witness. The Senator from Wyoming has gone to vote, and when he returns, we will go vote. Please proceed.

STATEMENT OF DR. HOWARD GRUENSPECHT, DEPUTY ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, DEPARTMENT OF ENERGY

Dr. GRUENSPECHT. Thank you, Mr. Chairman. I appreciate the opportunity to appear before the committee today to discuss coal supply and reliability. EIA is the independent statistical and analytical agency within the Department of Energy. We do not promote, formulate, or take positions on policy issues, and our views should not be construed as representing those of the Department or the administration. I know you hear that a lot.

As the chairman noted, for the past 50 years coal has fueled roughly half the Nation's electricity generation. Between 1989 and 2005, net generation from coal increased by 27 percent, while total coal-fired generation capacity grew by only 3 percent. The average capacity factor or utilization rate of coal-fired plants increased from 60 percent to 72 percent over this period.

Turning to fuel costs, the national average delivered cost of coal to the electric power sector rose from about \$1.34 per million Btu in 2004 to about \$1.65 per million Btu as of February 2006. Rail shipments in 2005 accounted for 72 percent of all coal delivered to electric powerplants. National average rail transportation costs, which now represent about 40 percent of delivered coal costs, increased from 51 cents per million Btu in 2004 to about 63 cents per million Btu early this year.

As Senator Burns noted, contract rail transportation represented about 60 percent of the average total cost of rail-delivered Western subbituminous coal, which is primarily produced in the Powder River Basin, and only 25 percent of the average total cost of rail-delivered Eastern bituminous coal.

In 2005, subbituminous and bituminous coal each accounted for about 46 percent of total coal consumed for power generation, with lignite coal and a small amount of waste coal accounting for the rest. The market share of Western subbituminous coal in total coal consumption and production has been growing steadily over time.

The national averages for delivered coal costs encompass a wide range of factors affecting individual electric generators. The average also reflects the fact that generators buy both coal and rail transportation under pre-existing and newly negotiated contracts, as well as in spot market transactions. So it is undoubtedly the

case that some generators have experienced larger changes in their delivered coal costs, while others have experienced smaller changes. However, despite recent increases in delivered coal costs, coal-fired generation generally remains very cost-effective compared to generation using natural gas.

Annual shipments of Powder River Basin coal have grown steadily. In fact, they reached a record level in 2005, but actual shipments in 2005 were short of levels sought by customers, having been impacted by disruptions in the Powder River Basin transportation infrastructure and corrective actions being taken to address them. Rail congestion in the East has also periodically disrupted deliveries to electricity generators.

Days of burn, a measure of the number of days a plant or group of plants can operate using only on-site inventories for supply, is a way of representing coal stockpiles of powerplants in relation to anticipated use. At the national level, days of burn increased from 38 days to 40 days between February 2005 and February 2006. However, the increase has not been uniform. Stocks of bituminous coal increased 23 percent over that period, but inventories of sub-bituminous coal, again the vast majority of which comes from the PRB, dropped 7 percent over that period.

In addition to a drawdown of inventories, the shortfall in shipments over the past year has led to some reduction in utilization at some coal-fired plants. To compensate, electric power companies bought power from other generators or relied more heavily on other plants within their systems. Under recent market conditions, substitution of power generated at natural gas-fired plants in lieu of coal-fired power can be an expensive option, and my testimony provides some examples of that.

Looking ahead, significant projects to address rail bottlenecks in the Powder River Basin are now being implemented and others are planned as discussed in my testimony. Under existing policies, our long-run outlook, which is in our Annual Energy Outlook, projects that coal-based generation will continue to be the dominant source of the Nation's electricity supplies through 2030. Reliance on all types of coal is projected to increase over time, but particularly the Powder River Basin coal, suggesting a requirement for increased capacity throughout the Nation's rail transportation system.

That completes my testimony, and I would be glad to answer any questions that you or other members of the committee may have. Thank you, sir.

[The prepared statement of Dr. Gruenspecht follows:]

PREPARED STATEMENT OF HOWARD GRUENSPECHT, DEPUTY ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, DEPARTMENT OF ENERGY

Mr. Chairman and members of the committee, I appreciate the opportunity to appear before you today. As requested in your invitation, my testimony focuses on the current and future reliability of coal-based generation and the major forces impacting the coal supply chain.

The Energy Information Administration (EIA) is the independent statistical and analytical agency within the Department of Energy. We are charged with providing objective, timely, and relevant data, analysis, and projections for the use of the Congress, the Administration, and the public. Because we have an element of statutory independence with respect to this work, our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

For the past 50 years, coal has fueled roughly half of the Nation's electricity generation. The national average delivered cost of coal to the electric power sector has increased from about \$1.36 per million British thermal units (Btu) in 2004 to about \$1.65 per million Btu as of January 2006. Rail shipments in 2005 accounted for 72 percent of all coal delivered to electric power plants. National average rail transportation costs, which now represent about 40 percent of delivered cost, increased from \$0.51 per million Btu in 2004 to about \$0.63 per million Btu by February 2006, with the cost of contract rail transportation representing a much larger share of the average total cost of rail-delivered coal for western subbituminous coal than for eastern bituminous coal (60 percent and 25 percent, respectively).¹

The national averages for delivered coal costs encompass a wide range of factors affecting individual electric generators, such as their specific circumstances and the types of coal and rail transportation they require. The average also reflects the fact that electric generators buy both coal and rail transportation under pre-existing and newly negotiated contracts as well as in spot market transactions. So it is undoubtedly the case that some generators have recently experienced much larger changes in their delivered coal costs, while others have experienced smaller changes. Nonetheless, despite recent increases in the delivered cost of coal, coal-fired generation generally remains very cost-effective compared to generation using natural gas, whose price has increased to a much greater extent in recent years.

When discussing the reliability of coal-fired generation for electricity, it is useful to make a distinction between Western subbituminous coal, primarily produced in the Powder River Basin (PRB), whose share of the overall coal market has been growing over time, and bituminous coal generally produced in the East and Midwest. In 2005, subbituminous and bituminous coal each accounted for about 46 percent of total coal consumed for power generation, with lignite coal and a small amount of waste coal accounting for the rest.

Although annual shipments of PRB coal have grown steadily and reached a new record high in 2005, actual shipments in 2005 fell short of demand. For example, in June 2005 at the beginning of the peak summer demand season, the Union Pacific Railroad (one of the two railroads serving the PRB) incurred an average daily shortfall in PRB coal shipments of four trains per day, or about 12 percent less than it achieved prior to operational problems that began in mid-May. At the beginning of July, the Union Pacific informed its customers that it would be unable to meet all its obligations for coal and recommended that customers take steps to conserve coal. In September 2005, the Union Pacific and the Burlington Northern Santa Fe Railway, the second PRB carrier, together moved about 14 percent fewer trains of coal than targeted from jointly served mines (an average of 60.5 trains per day compared to a target of 70.7 trains). In October the shortfall in average daily trains moved from jointly served mines was 15 percent.

PRB coal shipments were short of expectations primarily due to disruptions in the PRB rail transportation infrastructure and the corrective actions being taken to address them. The shortfall in PRB shipments is reflected in a drawdown of subbituminous coal inventories at power plants over the past year and has also led to some reduction in utilization rates at some coal-fired plants. Although overall inventories of bituminous coal have grown over the past year, rail congestion in the East has also periodically disrupted deliveries to electricity generators. Looking ahead, while significant projects to address bottlenecks in the PRB are now being implemented and others are planned, EIA expects reliance on all types of coal to increase over time, suggesting a requirement for increased capacity in the Nation's rail transportation system.

COAL USAGE BY ELECTRIC GENERATORS

Coal-fired generation is the single largest source of electric power generation for the United States, accounting for between approximately 45 and 55 percent of total generation in each of the last 50 years. (See Figure 1).*

In 2005, coal accounted for 50 percent of total net generation, while the next largest sources, natural gas and nuclear power, accounted for 19 percent each. Hydroelectric power accounted for 7 percent of the total, and a variety of other energy sources, including petroleum, other fossil fuels, and other renewables such as biomass and wind power, accounted for the balance.

Between 1989 and 2005, net generation from coal increased by 27 percent, from 1,584 billion kilowatthours to 2,014 billion kilowatthours (See Figure 1). This in-

¹ Data on rail transportation costs from the COALdat database, a product of Platts/McGraw-Hill.

*Figures 1-3 have been retained in committee files.

creased output primarily reflected improved utilization of existing coal-fired plants, as total coal-fired generating capacity increased only 3 percent, from 303.1 gigawatts of net summer capacity to 313.5 gigawatts over the same period. In 1989, the average capacity factor of coal-fired plants (a measure of actual generation compared to the hypothetical maximum output from power plants) was 60 percent. In 2005 the average capacity factor for coal plants was 72 percent.

Although coal-fired generation has grown by 27 percent since 1989, the coal consumption measured in tons increased by 34 percent (from 782 million tons to 1,051 million tons). Consumption of coal outpaced the growth in generation because of increasing use of subbituminous coal produced in the PRB. This subbituminous western coal has less energy content per ton than eastern and midwestern bituminous coal, so more tons are needed to produce an equivalent amount of electricity. Western subbituminous coal is generally lower in sulfur and less expensive to produce than bituminous coal, which often makes subbituminous coal a preferred option for environmental and economic reasons despite its lower energy content.

COAL PRODUCTION, CONSUMPTION, AND TRADE

Coal production set a record in 2005 as the industry mined a total of 1,133 million short tons of coal, an increase of 1.9 percent over 2004. However, the regional coal production levels have followed different patterns over the last 5 years. Coal production in northern and central Appalachia decreased in 2002 and 2003 and then increased in both 2004 and 2005. This irregular pattern in eastern production was due to changes in demand and operational and permitting issues that affected production. Most recently, coal production in northern Appalachia was 140 million short tons in 2005, an increase of 3.5 percent over 2004. Central Appalachian coal production was 236 million short tons in 2005, an increase of 1.1 percent. Illustrative of the shift to subbituminous coal, production in the PRB has increased every year since 2000 and now accounts for the largest share of total U.S. coal production.

Total coal consumption increased in 2005 by 1.9 percent, slightly higher than the 1.1 percent increase experienced in 2004, but less than the 2.7 percent experienced in 2003. These trends are driven by developments in the electric power sector, which accounts for 92 percent of all domestic coal use. Coal consumption in the other sectors has varied only slightly over the last 5 years.

The United States also imports and exports coal, although the volumes are small in relation to domestic production and consumption. Total coal exports were 49.9 million short tons in 2005, including metallurgical coal exports of 28.7 million short tons. Most exported coal is mined in the East and transported from eastern or southern ports. Coal imports, also received predominantly through eastern and southern ports, were 30.5 million short tons in 2005, an increase of 12 percent over 2004. Most of these coal imports are consumed in the electric power sector.

TRENDS IN ELECTRIC POWER SECTOR COAL STOCKPILES

Power plant stockpiles, or inventories, of coal are used to protect against both routine and unusual disruptions in supply. Most plants receive coal by rail, truck, or water delivery. However, 72 percent of coal shipments are delivered to these power plants by rail. All of these transportation modes are subject to minor delays in shipments. Coal transportation and supply can also suffer major disruptions due to a variety of factors, including shortfalls in transportation, coal handling and mining capacity, infrastructure and equipment failure, and the weather.

A plant's stockpile of coal provides a buffer against these interruptions. If deliveries of coal are severely reduced, the operator of a coal-fired plant may be forced to reduce its utilization rate. In this case the reduced generation is replaced with power from other plants, such as natural-gas-fired units, which is often more costly.

Although there has been significant year-to-year variation, coal stockpiles at electric power plants have generally been declining for years. For example, end-of-year stocks declined from 135.9 million tons in 1989 to 101.2 million tons in 2005, down 26 percent, although coal-fired generation and coal consumption both increased during this period. The long-term trend represents, in part, efforts by power plant operators to minimize their coal inventory holding costs. Over the past several years, however, operators at times have found it difficult to maintain stockpiles because of intermittent disruptions in coal production and transportation. Concerns over coal deliveries and reduced stockpiles have grown over the past year due to problems with shipments of coal from the PRB, as discussed below.

At the end of February 2005, coal-fired electric power plants had 98.3 million tons of coal in inventory. By the end of February 2006, inventories had increased to 105 million tons. Coal stockpiles are often expressed in terms of "days of burn," which is a measure of the number of days a plant, or group of plants, can operate using

only on-site inventories for supply. EIA has estimated the days of burn at larger coal plants (net summer generating capacity of 250 megawatts or greater) by comparing each month's ending inventory with the historical average demand for the next month. At the national level, days of burn at large coal plants have increased from 38 to 40 days comparing February of 2005 and 2006 (see Figure 2).

However, the increase in coal inventories over the past year has not been uniform. During this period, stocks of bituminous coal, which is primarily mined in the East and Midwest, increased 23 percent from 44.6 to 54.8 million tons (see Figure 3). But inventories of subbituminous coal, the vast majority of which is shipped from the PRB, dropped 7 percent from 49.8 to 46.1 million tons. This decline in subbituminous stockpiles is indicative of the transportation problems for shipments of PRB coal. It is also consistent with press reports that over the past year some generators relying on subbituminous coal decided to reduce coal burn in order to conserve coal supplies; i.e., the 7-percent decline in subbituminous stockpiles would have been greater if those generators had not reduced the output at their plants.

RAILROAD TRANSPORTATION ISSUES

In the PRB, a number of disruptions occurred in planned coal shipments during 2005. Structural failures in the rail roadbeds caused two major train derailments on the weekend of May 14. The roadbed failures were triggered by unusually wet weather for the region. Accumulated coal dust infiltrated the road foundations (stone ballast) and created drainage problems which led to the derailments. This affected all three mainlines in the Joint Line shared by the Burlington Northern Santa Fe Railway (BNSF) and Union Pacific Railroad (UP) used to move coal unit trains in and out of the PRB. Normally, the Joint Line operates 365 days a year, 24 hours per day and moves three loaded coal trains per hour out of the basin. After the derailments, BNSF and UP replaced more than 100 miles of roadbed, including new concrete railroad ties and new tracks to facilitate trains passing. Rebuilding continued, as scheduled, through November 2005 and was restarted with the spring thaw in 2006. During this entire period, rail traffic in and out of the PRB has been disrupted at times, but it is now moving more fluidly, even though the reconstruction project is not yet quite complete.

BNSF and UP have invested heavily over the past 20 years in rail infrastructure and equipment to serve the PRB coal market. Both railroads continue to make additional capital improvements throughout their respective rail systems: adding parallel tracks, upgrading classification yards, alleviating bottlenecks, and generally improving capacity for all types of rail traffic. On May 8, 2006, the UP and BNSF announced that they would spend \$100 million over the next 2 years to construct more than 40 miles of third and fourth main line tracks on the PRB Joint Line. This follows the addition of 14 miles of third line track in 2005 and 19 miles currently under construction in 2006. The railroads believe the completion of these projects will raise Joint Line capacity to at least 400 million short tons per year, compared with the record 325 million short tons hauled in 2005.

The Dakota, Minnesota & Eastern (DM&E) Railroad has spent the past 8 years in the permitting, reviewing and financing processes surrounding its plans to open a new route into the PRB from the East. The DM&E would upgrade existing routes to connect the PRB more directly to the Chicago area to the East and to power plants in South Dakota, Minnesota, Wisconsin, Iowa, Illinois, and possibly points east of Chicago. If built, the railroad could potentially haul 100 million short tons of coal per year out of the southern PRB directly eastward. This could alleviate congestion on the Joint Line.

EIA is not directly involved in the DM&E project. However, in 2005, at the request of the Surface Transportation Board (STB), we provided an analysis of the impact of changes in coal transportation rates on the projected use of coal in electric power generation using a set STB-specified transportation rate sensitivity cases. Our analysis found that the projected level of coal use in electric power generation in the United States did not change appreciably across the cases, but that the projected use of PRB coal varied to some degree across the sensitivity cases. For example, an assumed 7 percent reduction in rates to Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Missouri, and Kansas, together with a smaller reduction in rates to Kentucky and Tennessee, was estimated to increase the projected use of PRB coal by roughly 3 percent.

As a result of the disruptions of 2005, shipments of PRB coal fell short of demand. Some affected power plants had sufficient inventories of coal to continue normal operations, but others reduced generation as a part of their strategy to mitigate the disruptions in the supply chain. To compensate, they bought power from other generators, or relied more heavily on other, generally natural-gas-fired, generating

plants within their systems. The capacity of natural-gas-fired power plants (including oil-burning plants that can also use natural gas) more than doubled, from 165.9 to 409.2 gigawatts between 1989 and 2005. Most of this capacity is not fully utilized, but using it in lieu of coal-fired power can be an expensive option. At the average cost of delivered natural gas to the electric power sector in January 2006, a new, efficient natural-gas-fired combined-cycle plant can produce electricity at a fuel cost of roughly 6.4 cents per kilowatthour. The comparable cost for a conventional coal-fired plant at the January 2006 national average delivered price was less than a third as much, about 1.5 cents per kilowatthour.²

Because of the complex and (currently) capacity-constrained PRB operations and delivery schedules, it will take some time to rebuild subbituminous stocks. With the supply chain for PRB coal as fully committed and finely tuned as it is, any future weather, equipment or infrastructure failure has the potential to reverberate through the entire system. Hardly a month goes by that delivery of PRB coal somewhere in the supply chain is not interrupted by a derailment, freezing, flooding, or other natural occurrence. In most cases, the events are small compared with the amount of PRB coal delivered each year, and the rail system and inventories are capable of absorbing them, unless the events are particularly severe or occur simultaneously.

The situation in the East is somewhat different. The primary eastern railroads, Norfolk Southern Railway (NS) and CSX Transportation (CSXT), divided and absorbed Conrail's assets in 1998. Both railroads experienced a number of customer complaints related to slow deliveries in the years following the Conrail acquisition. The impact of population density and geography mean the eastern railroads must contend with more traffic per mile of track, more congested routes and delivery areas, steeper grades and narrower, winding right-of-ways and routes than the western railroads. Recent increases in the export coal market have further congested rail lines in the East. Therefore, deliveries of bituminous coal to eastern power plants may also have been disrupted, to some degree, by hauls to export docks.

It is important to note that railroad capacity constraints nationwide entail more than just the infrastructure improvements at important coal origins and destinations. Other parts of the rail system are also increasingly constrained in their capacity to handle all rail traffic, not just coal. Nationwide rail capacity is constrained in part because of growth in demand in other freight sectors, including agricultural products, consumer goods, and especially, intermodal shipments (trailers or containers on flat cars). Use of these has been growing as an alternative to long-haul trucking which has been impacted by a shortage of drivers and higher diesel fuel costs. Future economic growth and the possibility that railroads will reacquire market share for shipments previously lost to truck and barge will continue to challenge the railroads to provide sufficient capacity.

COAL PRICES AND TRANSPORTATION RATES

Delivered costs of coal reflect two components: the costs of mined coal, and the transportation costs. For western subbituminous coal, the cost of contract rail transportation represented approximately 60 percent of the average cost of rail-delivered coal in February 2006. For the same period, the cost of contract rail transportation of eastern bituminous coal represented only about 25 percent of the average cost of rail-delivered coal. Therefore, the impact of transportation costs on the total delivered cost of coal is significantly higher for electric generators who rely on western rather than eastern coal.

Until recently, real (inflation-adjusted) delivered coal prices had fallen steadily for the past two decades as coal output grew by increasing man-hours, improving efficiency, and opening new operations, while railroad rates declined due to significant productivity improvements. The balance has now shifted, rather dramatically, to a more supply-constrained market. At the beginning of 2005, all four major railroads began offering coal shippers much higher rates when old contracts expired. The magnitude of the rate increases varies with specific circumstances, but significant rate increases have been reported in the trade press.

In 2005 and 2006, coal buyers reported rapid escalation in coal supply costs, both in rail transportation contracts and minemouth coal prices. Between February 2004 and February 2006, average minemouth prices for subbituminous coal increased by about 44 percent while average minemouth prices for Central Appalachian bituminous coal increased by 50 percent. During the same period, average contract rail

²This does not include the higher capital costs or the higher operations and maintenance costs of coal-fired plants.

transportation costs for subbituminous coal increased by about 19 percent while average contract rail transportation costs for bituminous coal increased by 13 percent.³

These data reflect average contract prices paid by electric generators for rail-delivered coal. As such, the data reflect pre-existing as well as recently renegotiated contracts for coal and transportation. Therefore, the price paid by specific generators may vary from these averages.

THE FUTURE OUTLOOK FOR COAL

Over the next 25 years, EIA expects significant growth in the use of coal for the generation of electricity and the rail transportation system will need to be expanded to accommodate it. Over the same time period, coal use in the industrial sector is expected to grow as coal is used to produce liquid fuels together with electricity. While there are uncertainties, particularly with respect to the potential impact of future environmental regulations on coal use, the wide-spread availability and relatively low cost of coal make it very economical for electricity generation. As a result, in the reference case in EIA's *Annual Energy Outlook 2006* (AEO2006), total coal consumption is projected to increase from 1.1 billion short tons in 2004 to 1.3 billion short tons in 2015 and 1.8 billion short tons in 2030.

The increase in coal use over the next 5 to 10 years is driven primarily by greater use of existing coal plants, while in the longer term, a large number of new plants are expected to be added. The current average utilization rate of approximately 72 percent is projected to increase to 80 percent by 2013. In addition, over the 2004 to 2030 time period, 174 gigawatts of new coal-fired electricity generation capacity, including 19 gigawatts of coal-to-liquids capacity, are projected to be added. Most of the projected new coal plants, 126 gigawatts, are expected to be added after 2020, and a little over half of them are expected to be integrated gasification combined-cycle (IGCC) plants. By 2030, coal-fired generation is projected to account for 57 percent of total generation in the AEO2006 reference case, up from 50 percent in 2004 (See Figure 1).

To meet the growing demand for coal, most coal supply regions, particularly those in the West, are projected to increase their annual production volumes. The exceptions to this are the Central and Southern Appalachia regions where mining difficulties and reserve depletion are projected to contribute to lower production levels in 2030 compared to 2004. In contrast, the PRB has large, productive surface mines that are able to produce coal at a comparatively low cost. In 2030, the PRB is projected to produce 719 million short tons, 298 million tons higher than in 2004, accounting for 52 percent of the total increase in annual coal production between 2004 and 2030.

After declining for most of the past 25 years, the average real delivered price of coal to the electricity power sector has risen sharply recently. Over the next 25 years, EIA projects that coal prices in inflation-adjusted dollars will moderate somewhat from their current level and then increase slowly. Even so, the price of coal still remains well below competing fuels such as natural gas. At the regional level, minemouth coal prices are projected to rise significantly in several of the major coal supply areas. For example, they increase by 38 percent in the Eastern Interior Region and 40 percent in the PRB. However, the average national minemouth price is projected to increase only 8 percent because a large portion of the growth in coal consumption comes from the relatively low cost subbituminous coal deposits in the PRB.

The increase in coal use is not expected to lead to increased power sector emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x), or mercury, but carbon dioxide (CO₂) emissions grow. In fact, because of recently enacted regulations, SO₂, NO_x and mercury emissions are all expected to fall as control equipment is added to existing plants. Between 2004 and 2030, power sector SO₂, NO_x and mercury emissions are projected to fall by 66, 42, and 71 percent, respectively, while CO₂ emissions grow by 44 percent.

As with all long-term projections, there are significant uncertainties. With respect to coal markets, key areas of uncertainty include future economic growth, long-term productivity improvements that influence coal prices, competing natural gas prices, the development of competing technologies such as nuclear, and the possibility of new policies to curb the growth in CO₂ emissions. In addition to the reference case, the AEO2006 includes numerous sensitivity cases that address some of these uncertainties. For instance, in the high coal cost case, higher coal production and transportation costs lead to delivered prices to the electricity sector that are 48 percent

³Data on minemouth prices and rail costs from COALdat database, a product of Platts/McGraw-Hill.

higher in 2030 than the reference case (on a Btu basis). In the high coal cost case, coal's share of generation remains at 50 percent in 2030 rather than rising to 57 percent with only 111 gigawatts of new coal capacity is added rather than the 174 gigawatts that are added in the reference case. In addition, coal production in the PRB grows to only 493 million tons in 2030, 226 million tons below the level projected in the reference case. Overall, total coal production in the high coal cost case is 283 million tons lower than in the reference case. Conversely, in the low coal cost case, delivered prices to the electricity sector are 29 percent lower in 2030 than in the reference case. As a result, 200 gigawatts of new coal capacity are added. Without exception, coal production and consumption increases in all of the sensitivity cases included in the *AEO2006*. However, EIA analyses of proposals to control greenhouse gas emissions have sometimes shown significant reductions in coal use.

In sum, coal-based generation has been, and will continue to be, the dominant source of the Nation's electricity supply. Recent structural changes in the Nation's rail industry have led, at times, to some disruptions in deliveries of PRB coal to power plants. While these have generally been compensated for by alternate coal supplies, reduction of inventories, or switching to natural gas, they have also had some impact on electricity prices borne by consumers. The railroad industry appears to be investing in and/or planning measures to increase capacity and reliability at key coal origin and destination locations. EIA's long-term outlook for electricity assumes that transportation will not constrain the growth of coal-fired generation.

This concludes my testimony, Mr. Chairman and members of the Committee. I will be happy to answer any questions you may have.

The CHAIRMAN. We are going to be in recess and return shortly and start the questions. Stay with us.

[Recess.]

Senator THOMAS [presiding]. Why do we not go ahead and see if we can get started? Apparently we are going to have votes off and on this morning. So probably we ought to move forward.

Doctor, let me ask you a couple of questions. What is the difference between the cost of shipping 120 tons of Powder River coal 1,000 miles or delivering 120 worth of electricity generated at the minemouth? Are there going to be substantial differences?

Dr. GRUENSPECHT. The rail rate for moving coal will depend on whether or not the shipper has competitive rail service by two railroads or only one railroad. The rail rate will depend on whether or not the shipper has competitive rail service, the vintage of the shipper's existing rail contract, and, to some extent, operational factors. Does the rail route go across steep grades? Does the shipper have fast unloading equipment? Another important consideration is whether the shipper supplies the rail cars or whether the railroad supplies them. A broad and reasonably safe range would be to say that the rate would be in the range of a little bit under 1 to 1.5 mils per ton mile, or \$8 to \$15 per ton. It is difficult to calculate without all the details of the specific situation, as I described above.

As to the cost of moving coal by wire, from a minemouth plant to the system, the key question is whether or not the transmission line and the generating source already exists or if this would be a new development. The marginal cost, if the infrastructure exists, is likely to be extremely small and would be larger if you had to build the plant and the line. So never an easy answer from us. I apologize.

Senator THOMAS. No, there are not, but I guess that is one of the future questions we have to deal with. In the long term, are we going to be better off to put more emphasis on minemouth generation and transmission to the market or whether we can do it this other way? We are going to have to deal with that.

Dr. GRUENSPECHT. We do a lot of minemouth generation. As I said in the testimony, 72 percent is shipped by rail. The rest is split between barge and other forms of water delivery, and then minemouth, and then a little bit of truck delivery. But of the other 28 percent, I think barge and water delivery would be the biggest share. Minemouth would be the next biggest share and then truck is small. So there is substantial minemouth and it is growing.

Senator THOMAS. Right.

Barge transportation now to Wyoming is not very good.

[Laughter.]

Dr. GRUENSPECHT. You are the expert on that, sir.

Senator THOMAS. So I guess that is kind of what I was going to ask you next. Rail shipments represent about 72 percent of the coal deliveries. The remaining is minemouth, but it is not necessarily. There are some barge and other kinds of things as well. Is that right?

Dr. GRUENSPECHT. That is right.

Senator THOMAS. Well, it is not an easy issue. There is no question.

Then the other, of course, compelling issue is I think our policy needs to be using more coal for electric generation as opposed to gas. The reason we have had gas plants lately is because they can be smaller plants closer to the market, and that has done away with the transmission. So all these are in there.

EIA has projected that by 2030 Powder River will produce 719 short tons of coal. This year's *Annual Outlook* was first to include a significant amount of coal to liquid production. How much of this do you see moving toward coal to liquid then in the future?

Dr. GRUENSPECHT. The amount of the coal used for coal to liquids production would be about 150 million tons out of the 719. So it is pretty substantial by 2030.

Senator THOMAS. It still leaves a good deal, though, for rail transportation.

Dr. GRUENSPECHT. Certainly more than we have moved, yes.

Senator THOMAS. Senator?

Senator BURNS. Thank you very much.

In your testimony, you noted that the stockpiles are up over last year, which is a good thing. We are getting the same numbers, but stockpiles in 2005 hit historically low levels, and I understand there were some delivery problems with the Eastern coal in 2004. So their stockpiles were down as well.

We are going to hear later from the utilities, at least three of them anyway, with current stockpile problems. We are getting those official reports, and also reported in the media, they have the same situation.

Do you look behind your overall figures to identify these types of problems, and should we be concerned when utilities report to us that they cannot get enough product delivered?

Dr. GRUENSPECHT. We do get information from the individual plants, not just the aggregate figures. The data on the individual plants is confidential. I certainly think that if you were in the market, you would not want your situation necessarily known regarding how desperate you were for supply. So we do not talk about our

individual plant numbers, although our numbers are built up from individual plant reports.

There are some articles in the trade press, as you have mentioned, and it is certainly not violating anything to talk about those. We know that the Laramie River Station in Wyoming operated by Basin Electric, as we heard about in the opening statements, was as low as 10 days of burn at the beginning of March, and that is a pretty low number. The national average, as I mentioned in my testimony, was 38 to 40 days of burn. Otter Tail's Big Stone Plant in South Dakota has been even lower in mid-March. Apparently things at Laramie River have improved somewhat since March, in part because the plant was not operating at high capacity in April. So we do follow the individual situations.

Again, regionally, the trend has been bituminous stocks rising over the last year but subbituminous again falling, in part because of the problems that we all know about on the rail transportation system in the Powder River Basin and other areas.

Senator BURNS. In some areas, we got reports of actually coal being imported from offshore to take up when they had those big drawdowns, and that sort of concerns me. I would hate to get as dependent on foreign coal as we do on oil. Should we be concerned, from a domestic energy production standpoint, about some increase need of imported coal due to delivery system breakdowns?

Dr. GRUENSPECHT. We import and export coal. We export a lot of metallurgical coal and we import some coal mostly for power production, as you pointed out. Both the imports and the exports are pretty small in relation to our domestic production and consumption, on the order of 3 to 4 percent. And the imports and the exports balance out. My understanding is that a lot of the imports come into Eastern and Southern ports. I think Colombia is our biggest source of coal imports, and we import some from Canada as well.

I do not think we are headed toward a situation in coal like the situation we have in oil. I think the chairman referred to the United States as being the Saudi Arabia of coal. That is probably true. There are some advantages in having some trade, particularly exporting the met coal, which there is a high demand for in the world, and probably in some parts of the country there are some advantages to coal imports. If you have a plant right on the coast in the Eastern and Southern area, there may be some advantages. Imports is one way to meet demand, but it is a small proportion of our total coal market in this country.

Senator BURNS. You mentioned a while ago a date and I did not get the beginning date, but you said we started off around \$1.34 per million Btu. We are up to \$1.65 in 2005. What is that span of years?

Dr. GRUENSPECHT. I think \$1.34 was the average for 2004, and \$1.65 I think was a February 2006 number. Again, we survey the coal plants on a monthly basis, and we get delivered prices. You have the shipment cost. You have the contracts. You have the spot transactions. That is an average delivered price of coal that puts it all together on a Btu basis because, as you know, the subbituminous and the bituminous coals have different energy contents.

Senator BURNS. That is all the questions I have for this witness.

Senator THOMAS. The rail fees are based on the content of the coal. Is that right? To some extent at least.

Dr. GRUENSPECHT. I am not an expert on rail fees. Let me be the first to admit that. My understanding is that they are based on the weight of the coal, and there are—

Senator THOMAS. Well, you just mentioned that it was based on Btu.

Dr. GRUENSPECHT. No. I said the numbers that I provided in terms of the average delivered cost of coal were based on Btu because—

Senator THOMAS. Well, that is what you said.

There are processes going on to change the Btu levels too in low sulfur coal, which may be part of the process.

You mentioned the problem of congestion and so on. In your judgment, is it basically the availability of the capacity of rails or is it the cars?

Dr. GRUENSPECHT. Union Pacific actually has a good Web site discussing issues on the southern Powder River Basin. It was pretty open, I think, about what was going on last year. The description was of unit trains being taken out of circulation, if you will, given the constraints on the rails. At least in that setting, it was less an issue of cars than an issue of the system.

The other thing to keep in mind, I think, is that it is not just a question of infrastructure at the coal origin points like the Powder River Basin, which is the most important one, and the destination points, the powerplants and the unloading facilities there. There is also, I think, a general increase in reliance on rail in the country, certainly higher diesel prices in relationship to oil, a lot more interest in moving more trailers on flat cars than have been in the past. So there is a general, I think, tightness in rail capacity.

Senator THOMAS. I do not think there is any question we are seeing that on I-80 going out, a lot more coastal stuff moving from the west coast to Omaha, for example, on rail that used to go on truck. And now we are concerned about the volume on the highways.

You are with the Energy Department. All this needs to be part of the decisions we make with respect to policy in terms of the future, and so I think it is very important that we begin to understand really what the problem is, whether it is a matter of more rails, or whether it is a matter of having more cars available.

I guess one of the things that makes me wonder. You mentioned the Laramie River Station. That is a relatively short route that I would not think would be a very congested rail, and yet that is one of the places where the coal delivery has been the most difficult. So it would make you think it is not the rail as much as perhaps it is the cars.

Dr. GRUENSPECHT. Again, my understanding is that Laramie River is a little bit more than 100 miles from the southern-most PRB mine. Again, it is fueled entirely by PRB coal. Delivery of coal is by Burlington Northern, and they are the only rail carrier serving the plant. Beyond that, I am sure the other witnesses would have—

Senator THOMAS. Is that a problem?

Dr. GRUENSPECHT. I would not say.

Senator THOMAS. That is part of the thing we are here to talk about, what the problems are and how we solve them.

Dr. GRUENSPECHT. They clearly were not able to—certainly in the Powder River Basin, the loadings were not what was planned for 2005. Usually EIA are the bad news guys, but so far this year, our understanding is that coal production is up and rail car loadings are up through May 14, 2006 versus May 14, 2005. Rail car loadings are up 2.5 percent. Remember that the problem in the Powder River Basin, the two derailments, was that weekend of May 14. So one would, I guess, hope and expect that, for the rest of the year, the year-to-date comparisons would be even more favorable, 2006 versus 2005.

Senator THOMAS. While we are waiting for the chairman, you are from the Department. We are looking at a problem, the problem being able to get the energy source to, in this case, the electric generators to get it to the market, and the prices have grown extremely quickly. What solutions do you have? Do you have ideas as to what we ought to be doing?

Dr. GRUENSPECHT. Our understanding is there is considerable investment being made in the key rail transportation infrastructure. I think in the chairman's opening remarks, he referred to a new investment plan, increasing the trackage in the joint line area. There are investments going on now there. In the Energy Policy Act last year, the Congress I think created some mechanisms possibly for increasing the building of transmission lines, national interest corridors. You described, sir, the potential role of transmitting electricity along—

Senator THOMAS. The problem is, frankly—and then I will get off of this—that we have a policy to do that. We have chapter 17, some encouragement and incentives to do it. But the rules have not been cleared yet from OMB. We have not got things moving. The impact is already here, and the results are years away. It just seems to me like that is what we ought to be grappling with and implementing the policy that is out there.

So, thank you, Mr. Chairman.

The CHAIRMAN [presiding]. Yes, sir. Are you finished?

Senator THOMAS. Yes.

The CHAIRMAN. Did you get all the questions you needed, Senator Burns?

Senator BURNS. Yes.

The CHAIRMAN. There are still some more people coming, you know.

Senator BURNS. Get them on that table.

[Laughter.]

The CHAIRMAN. Your testimony, sir, suggests that some generators who rely on subbituminous coal elected to reduce their use of coal to conserve supplies, which in turn resulted in a 7 percent reduction in stockpiles. How much of a reduction in stockpiles might have occurred had these generators decided not to reduce their burn?

Dr. GRUENSPECHT. That is hard for us to tell. I would have to think hard about doing a calculation like that. That is probably something I am not talented enough to do at the table, but we could certainly try to get that for you.

The CHAIRMAN. Well, never admit your lack of talent in front of a committee.

[Laughter.]

The CHAIRMAN. We thought you were extremely talented. So we are going to say you are going to use your talent and come up with the answer and tell us the answer.

Dr. GRUENSPECHT. Well, we will come up with an estimate, sir. I do not know that we will come up with the answer, but we will do our best.

[The information follows:]

Coal Stocks: Between February 2005 and February 2006, stocks of subbituminous coal held by electric power generators fell by 7 percent (from 49.8 to 46.1 million tons). How much of a reduction in coal stocks might have occurred if some generators had not reduced their burn of subbituminous coal?

We cannot say with precision how much subbituminous coal was saved by generators using either other types of coal or other sources of generation, such as gas-fired power plants. For competitive reasons a generator will, in many cases, not reveal its stocks situation or its fuel procurement strategy.

Some generators have been publicly identified as reducing their use of sub-bituminous coal in response to rail transportation problems from the Wyoming Powder River Basin (the source of the vast majority of subbituminous coal supplies). Examples include Entergy Arkansas, Westar Energy in Kansas, We Energies in Wisconsin, and Otter Tail Power in South Dakota. We also know that during 2005 the Union Pacific Railroad, one of the two major carriers of Powder River Basin coal, publicly encouraged generators to take steps to conserve coal supplies. While there is reason to believe that other generators reduced their Powder River Basin coal burn in response to transportation problems, EIA does not collect data that would identify those generators or determine the extent to which they conserved coal.

As noted above, several utilities have been publicly identified as reducing Powder River Basin coal burn. EIA data shows that comparing 2005 to 2004, these utilities reduced coal burn by 2.3 million tons or 8 percent. The EIA data does not indicate the extent to which the reduction in coal burn is due to efforts to conserve coal. Actual conservation efforts at these utilities could have been smaller, if some portion of the reduction in the use of affected plants would have occurred absent any disruption in coal supply, or larger, if these utilities would have preferred to use more coal in 2005 absent coal disruptions. Nonetheless, the data do indicate that, all other things being equal, if these plants had operated in 2005 as in 2004, national stocks of subbituminous coal would have been an additional 2.3 million tons lower at the end of 2005.

The CHAIRMAN. Okay.

Has EIA estimated how much higher electricity rates are as a result of shortages of Powder River Basin coal?

Dr. GRUENSPECHT. It can be significant. A lot depends on the price of the alternative. In some cases, I think possibly coal-fired power could have been used other than the specific plants that were affected, but in cases where there was a need to burn natural gas in place of the coal, the fuel costs of using natural gas are significantly higher. At the prices prevailing early this year, using natural gas in a relatively modern, efficient plant, the fuel costs would have been over 6 cents a kilowatt hour, and using coal in an existing average plant, the fuel costs would have been under 2 cents a kilowatt hour. So you can see, if a lot of that has been going on, there is potentially quite a significant impact on the cost of generating electricity.

The CHAIRMAN. The North American Electric Reliability Council, NERC, recently released its summer 2006 assessment. I understand that while NERC has placed the Powder River Basin on the watch list, it is not anticipating a coal reliability problem this summer. Is that correct?

Dr. GRUENSPECHT. That is my understanding as well.

The CHAIRMAN. However, NERC did not caution that some utilities will need to conserve their coal supplies by purchasing electricity or using alternative fuels to ensure peak power. Does the EIA agree with NERC on this matter, and can you estimate the cost impact on the consumer?

Dr. GRUENSPECHT. As I was discussing before you came into the room—

The CHAIRMAN. I am sorry if I duplicated.

Dr. GRUENSPECHT. That is okay. You are a busier person than I am.

Coal shipments so far this year from the PRB and rail car loadings are up. This is for January through the middle of May this year versus January through the middle of May last year. The middle of May last year is when some of the most significant problems arose. So we are certainly hopeful that our rail car loadings will run well ahead of last year.

One of the things we were helped by was a relatively mild winter. Although summer is the peak nationally for use of electricity, winter is the secondary peak. We had a pretty mild winter, and that I think helped the building of stocks. As indicated in my testimony, on a national average, stocks have actually risen from 38 days of burn to 40 days of burn. So with increased rail loadings and with the little bit of a breather we got this winter, we are pretty hopeful.

But the long-run picture, which is part of what I believe this hearing is about, is that we do expect a tremendous increase in the use of Powder River Basin coal, and there will need to be additional investments made to move that coal or, as in the discussion with Senator Thomas, moving more electricity by wire from minemouth plants in the region.

The CHAIRMAN. Did anybody discuss the so-called investment tax credit that the railroads are seeking in my absence? You are aware of that.

Dr. GRUENSPECHT. I am not aware of that.

The CHAIRMAN. Let me ask you this. The railroads are seeking a 25 percent investment tax credit for capacity additions. Would this help to secure reliability of deliveries of coal necessary for electric production?

Dr. GRUENSPECHT. Certainly investment tax credits would lower the capital costs, and railroading, like power generation, is a very capital-intensive industry. So potentially it would make investments more attractive.

One can say that, though, about any capital goods sector, and I think the hard choices that have to be made by the Congress are when such instruments should be used and when they should not. I will leave it at that.

The CHAIRMAN. It sure would seem to me, as one who is not very informed on the subject, that it is a stretch to think the railroads need a 25 percent investment tax credit, but let us hear from them, as they appear here to see how they can justify such a statement. But you should not necessarily know that.

Do Senators have any further questions?

[No response.]

The CHAIRMAN. All right. Thank you very much. You come from a great agency and I am glad that you came to appear before us.

Dr. GRUENSPECHT. Thank you, sir.

The CHAIRMAN. Robert "Mac" McLennan, vice president of external affairs, for the Tri-State Generation and Transmission Association; Mr. Steven Jackson, director of power supply, the Municipal Electric Authority of Georgia, Atlanta; Edward Hamberger, president and CEO of the Association of American Railroads; David Wilks, president of energy supply, Xcel Energy Services, Minneapolis; and the Honorable Robert Sahr, chairman of the South Dakota Public Utilities Commission.

We are going to start right in the order that I introduced you. Panel number 2, Robert "Mac" McLennan, will you please start? The prepared testimony of all of you will be made a part of the record at this moment. Will you limit your remarks to 5 minutes, if you can. If you cannot, we will let you go a little beyond because it is important that we hear from you today. We are going to start with you on your end, Bob. If you would get started, we would appreciate it.

STATEMENT OF ROBERT "MAC" McLENNAN, VICE PRESIDENT, EXTERNAL AFFAIRS, TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, WESTMINSTER, CO

Mr. McLENNAN. Thank you, Mr. Chairman. I appreciate the opportunity to testify today to present Tri-State's views with respect to the outlook for coal both in the near term and in the future and the role that rail transportation will play in that outlook.

I am convinced that folks are going to characterize this hearing today as an attack by the utilities on the railroads. I hope that what we get to at the end of the day is a realization about the vital importance of coal and the transportation of that coal to the affordable electricity in this country.

My name is Mac McLennan. I am the vice president of external affairs at Tri-State, which is a wholesale power supply cooperative that serves electric distribution cooperatives in Wyoming, New Mexico, Nebraska, and Colorado. We have members in 250,000 square miles across that region.

We have a plan in place to meet the electricity in our region both today and in the future, but we have concerns with rail freight issues, delivery problems with coal at the current time and rate challenge processes at the STB that could have a significant impact on our member consumers if we do not fix them as we go forward.

As a member-owned, not-for-profit electric cooperative, it is Tri-State's mission and obligation to provide a reliable source of electricity to our member consumers at the lowest possible price, consistent with sound business practices.

Like so many other utilities across the country, Tri-State is experiencing tremendous growth in its baseload electricity demand. We are growing at more than 100 megawatts a year. To meet that future demand, our board, in August 2005, made a decision to build three new coal-fired powerplants, 1800-plus megawatts at a cost of nearly \$5 billion. To give you a sense of what that means, we are roughly a \$2 billion to \$3 billion company today. So the future of our company and the fate of many of the consumers in Mr. Thom-

as' district, Senator Domenici's district, and others on this committee, are tied to us assuring that we can get reliable and affordable rail service as we go forward.

Tri-State has considered all of the available options as we go forward from a fuel resource perspective for new generation. We found there are really three options: nuclear, which at this point has siting and permitting and is, we think, years away; natural gas, which has been talked about here today, is both volatile, expensive, and has its own supply issues; and coal, a proven, low-cost domestic fuel source.

Tri-State might be considered fortunate in comparison to others in that we are located so near the Powder River Basin. However, despite our relative proximity to this enormous supply, we have to be confident that we can obtain timely deliveries of the resource as we make plans to build new baseload generation and to meet the baseload generation supply we have going forward.

There has been considerable discussion this morning already about Laramie River Station. Let me talk about that for a moment.

The CHAIRMAN. About what?

Mr. MCLENNAN. About Laramie River Station in Wheatland, Wyoming. As a 24 percent owner in Laramie River Station, we have a significant interest in what has happened there, as members have to date faced both increased rates and reduced coal shipments. In order to maintain efficiency, coal-based plants like Laramie River Station, or LRS, are run almost continuously. Maintaining full generation requires a train and a half a day. In addition to the train and a half a day, we try to maintain a 30-say supply of coal in the stockpile. Earlier this year—Dr. Gruenspecht referred to 10 days—we actually got to 6 days. If the stockpile had depleted any further, we would have been forced to curtail generation at a significant cost to our members. We would have had to either use natural gas, which as a fuel source is five to seven times more expensive than the underlying coal, or purchase off the purchase power market, if available, at much higher prices.

Now, I can say today, fortunately, stockpiles at LRS are building up. It happened for a couple of reasons, however. One is we put a fourth train set in at a cost of some \$10 million to the owners. Additionally, we are in the middle of a 7-week outage where one-third of the capacity is off of the plant. We are receiving about a train a day. When the unit that is offline today comes back online, we need to go back to at least a train and a half a day, or you will continue to see the stockpiles go down.

Laramie River is about 175 miles from the basin, and so we are probably one of the closest facilities, yet are still experiencing difficulties as it relates to reliability generally caused—and you will hear more about this—by the issues raised associated with outage issues on the tracks.

In conclusion, Mr. Chairman, because my 5 minutes are up, we recommend that both this committee and Congress pursue avenues to ensure the reliability of coal transportation while, at the same time, addressing legitimate railroad infrastructure needs.

On the rate side, if you will, many members of this committee and Senator Burns and Senator Dorgan have introduced a bill to deal with how do you get at the monopoly issues associated with

that. I am not convinced that deals with the rail delivery problems or rail reliability problems as you go forward. The delivery problems, if you are going to be able to provide in our region reliable electric, affordable service, we need to fix as well.

Now, the railroads have suggested that the answer to the current rail service and capacity problems is for Congress to enact an investment tax credit to encourage increased investment. We can support that investment if with it Congress couples some defined and enforceable way for us to ensure we have reliable service as we go forward.

Mr. Chairman, I thank you for you conducting this hearing today. The 1.2 million consumers in your State, Senator Thomas' State, and others have real concerns about our current rail service and our ability to receive reliable service as we go forward to meet the requirements of both your consumers and others.

[The prepared statement of Mr. McLennan follows:]

PREPARED STATEMENT OF ROBERT "MAC" MCLENNAN, VICE PRESIDENT, EXTERNAL AFFAIRS, TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.

Chairman Domenici, Ranking Member Bingaman and members of the Senate Energy and Natural Resources Committee, I appreciate the opportunity to appear before this committee today to share Tri-State Generation and Transmission Association's views regarding the outlook for coal-based electric generation both in the near term and in the future and the role that rail transportation will play in that outlook. I have also attached to my testimony comments made by Glenn English with the National Rural Electric Cooperative Association, regarding this matter.

My name is Mac McLennan. I am the Vice President of External Affairs for Tri-State Generation and Transmission Association, a not-for-profit wholesale power supply cooperative that generates and transmits electricity to forty-four member distribution cooperatives and public power systems in Colorado, Nebraska, New Mexico and Wyoming. Tri-State serves over one million people throughout our 250,000 square-mile service territory and employs more than one thousand people who, each day, ensure that our member consumers will receive the electricity they need to run their businesses, irrigate their farms, provide water for cattle and live their daily lives.

This hearing concerns the outlook for growth of coal fired electric generation, and whether or not there will be sufficient supplies of coal available on a timely basis in the future. As the committee will hear, Tri-State and our members have a plan to meet the demand for coal fired electricity—both current and future—but we also want you to know that rail freight rate issues, delivery problems with coal, current monopolistic and anti-competitive practices of the major rail carriers, and the rate challenge process at the Surface Transportation Board (STB) are having a significant negative impact on our member-consumers and electricity customers nationwide and must be resolved.

COAL, ELECTRICITY RELIABILITY AND OBLIGATION TO SERVE

As a member-owned, not-for-profit electric cooperative, it is Tri-State's mission and obligation to provide a reliable source of electricity to our member-consumers at the lowest possible price consistent with sound business practices. We have a "public utility" obligation to provide electricity to all in our service area. We take this obligation to serve very seriously. We are keenly aware that we provide an absolutely essential service to our customers. People living in the communities that we serve depend on our reliable supply of affordable electricity to run their businesses, to light, heat and power their homes, and to operate the hospitals and other emergency services needed to keep the people in rural America safe and healthy.

Like so many other electric utilities across the country, Tri-State is experiencing tremendous growth in baseload electricity demand. Baseload refers to the minimum amount of electricity we need to have available on a 24-7-365 basis to meet the needs of our consumers. We are growing in our baseload requirements by approximately 100 MW per year. To meet the growing demand for electricity in our service area, Tri-State is planning to build more than 1800 megawatts (MW) of new super-critical pulverized coal-based generation over the next fifteen years.

As we look to the near term fuel supply options, coal is the answer to meet our future baseload requirements. We depend on coal for our current baseload requirements as well. As of year-end 2005, sixty seven percent of Tri-State's owned and contracted supply of electricity was produced from coal, 14 percent from hydroelectricity, 11 percent contracted from Basin Electric Power Cooperative, which primarily generates using coal, 6 percent purchased power from the grid and less than 1 percent from natural gas, oil and renewables. As you can gather from our resource base, Tri-State relies on coal-generated electricity for more than 70% of our current needs.

In our resource planning process for future requirements, Tri-State has considered all currently available and realistic options—including renewables—for new generation. We have found that there are only three fuel resources currently available to meet future baseload generation needs: (1) nuclear, which appears to be several years away and faces significant siting difficulties and a lengthy permitting process; (2) natural gas, which is a volatile and expensive fuel, and for which there have been supply problems; and (3) coal, a proven, low-cost, domestically abundant resource.

Tri-State might be considered fortunate because our operations are located near the nation's largest supply of coal, the Powder River Basin (PRB). However, despite our relative proximity to this enormous supply, we must be confident that we can obtain timely deliveries of this resource as we make plans to build new coal-based generation. If there are continued constraints on rail lines moving out of the Powder River Basin to other parts of the nation, there will be a significant negative impact on Tri-State's ability to meet its service obligations in the future. If the major rail carriers are permitted to continue their monopolistic, anti-competitive practices, the cost of providing electricity using America's vast reserves of coal may force generators to rely on other fuels and even to foreign suppliers.

In addition to the obligation to meet our members' electric needs in a cost effective fashion, Tri-State must ensure that we maintain the reliability of the electric utility system as well. As the members of this committee are well aware, the Energy Policy Act of 2005 requires the establishment of mandatory electric reliability standards. Our ability to meet the requirements of that section could be jeopardized if we cannot cost-effectively access the coal resources of the nation due to rail delivery issues. Thus, we believe that reliable delivery of coal by rail is integral to electric reliability.

The railroad industry, like electric utilities, must also be subject to an obligation to serve its customers and the national interest. This obligation may be called in railroad law a "common carrier" obligation, but at its base it is an obligation to serve. This obligation to serve means an obligation to provide reliable transportation service at reasonable rates to its customers and to the nation. Without requiring that the railroads fulfill an obligation to serve, our nation's economy is stymied and America will not be able to sustain necessary levels of economic growth and meet the challenges of global competition. Adequate, dependable, and reasonably priced rail service is—like electricity—critical to our national and economic security interests.

Today, there appears to be no government agency to which rail customers can turn for redress when severe railroad service problems are experienced. Last year, the CEO of Arkansas Electric Cooperative was confronted with severe rail coal delivery problems that cost their customers at least \$100 million. In August, 2005, he sent a letter to the Surface Transportation Board (STB), the agency created by Congress to supervise the railroad industry, particularly in railroad monopoly situations. Interestingly, he never received even an acknowledgement of his letter from the Surface Transportation Board. Instead, his letter was answered in November, 2005 by the Burlington Northern Railroad, one of the two railroads about whom he was complaining. The STB has held no hearings or other inquiries into the rail coal delivery problems from the Powder River Basin, which became critical in 2005 and continues to be a critical problem in 2006.

The STB has shown little interest in rail service issues and has no history of directing railroads to provide service to shippers where service is inadequate. As a 24 percent owner in Laramie River Station (LRS), a coal-based generating station in Wyoming, Tri-State's member-consumers have been hit directly at LRS by both increased rates and reduced coal shipments. Indeed, the member-consumers of LRS are paying more and receiving less rail service.

LRS is served by a single railroad, Burlington Northern and Santa Fe Railway Company (BNSF). BNSF is supposed to deliver 8.3 million tons of coal annually from the Powder River Basin to LRS, a distance of approximately 175 miles.

In order to maintain efficiency, coal-based generating plants like Laramie River Station are run almost continuously. Maintaining full generation levels at the 1,650

megawatt level, the three-unit LRS plant requires 24,000 tons of coal per day, the equivalent of one and a half trains of coal daily. (A "train" consists of about 136 rail cars, each carrying about 120 tons of coal) In addition, a coal stockpile is maintained at the plant site, which is used as backup in case of an interruption in rail deliveries. To ensure reliability of service, we typically try to maintain more than a 30 day supply of coal in the stockpile.

Earlier this year, coal delivery problems resulted in a stockpile that would serve the plant for only 6 days. If the stockpile at LRS had been depleted any further, we would have been forced to curtail generation at a significant cost to our member-consumers. If LRS had been forced to curtail electricity generation, we would have had to either use natural gas generators—at fuel costs as much as 5 to 7 times higher than coal—or buy excess electricity on the grid, if available, at much higher costs than the electricity produced at LRS. In some parts of the nation, neither of these emergency backup options is available, and consumers could experience brownouts or rolling blackouts when coal supply falls short at generators. Fortunately, stockpiles at LRS are now building back up due to slightly improved delivery times from BNSF, the addition (at a cost of about \$10 million paid by Tri-State), of a fourth train set, and—more importantly—because a scheduled seven week maintenance outage of one of the three LRS units reduced the overall daily coal demand by one-third.

Across the nation, the failure to deliver Powder River Basin coal is costing consumers hundreds of millions, if not billions, of dollars in increased electricity costs. In 2006, the need for PRB coal is calculated to be 370 million tons or more, but the railroads themselves are forecasting they can make deliveries of only 350 million tons. With coal inventories already depleted, utility generators dependent on PRB coal can anticipate a 20 million ton shortfall. Replacing 20 million tons of coal generation with natural gas generation will require 340 billion cubic feet (BCF) of natural gas. At an estimated average gas price in 2006 of \$7 to \$9 per cubic foot, the cost for replacing this loss of coal generated electricity in 2006 will be an estimated \$2.0 billion to \$2.8 billion.

As of February 2006, the 340 BCF of natural gas needed to replace coal generation represented approximately five percent of all the natural gas currently in storage in the nation and almost 1.5 percent of the nation's total gas usage. Electricity generation is a less than ideal use of natural gas, which would be better saved for other purposes. Using such a large percentage of stored natural gas for electricity generation would only serve to drive up costs for both electricity and natural gas heating. Additionally, coal delivery problems from the PRB have contributed to spot market coal price increases. All of these costs contribute to the rising cost of electricity, which is not only impacting residential customers directly but is also contributing to increased costs for goods and services.

We at Tri-State are concerned that the continued supervision of the railroad industry that was contemplated by Congress in 1980 is not occurring. Congress deregulated most railroad activities on the theory that competition would improve both the efficiency and prosperity of the nation's railroads and result in reliable and cost effective rail service for the nation.

Our experience is that, under the current supervision of the Surface Transportation Board, railroads are allowed to charge excessive rates where there is no viable transportation competition and we must be satisfied with whatever level of service the railroads provide. In addition, with demand for railroad services far exceeding the supply of railroad capacity, the railroads have what Wall Street analysts identify as "perfect pricing power". Thus, we are concerned that, in the absence of governmental supervision, the railroad industry may have no incentive to jeopardize their pricing power by adding sufficient capacity, particularly for rail customers, like us, that have no access to transportation options. Unless the railroads provide sufficient and reliable transportation capacity for our coal movements, we will continue to face reliability problems for the foreseeable future.

RAIL RATE CONCERN

In addition to the rail delivery concerns being looked at by this committee, Congress should also be concerned about the cost of coal delivery to those facilities, like ours, that must depend on a single railroad for coal delivery. Coal delivery costs flow straight through to our customers many of whom are farmers who are already paying high rail rates on the movement of their crops to market. When we must rely on a single railroad to move coal to our plants, we are in no position to negotiate a mutually acceptable price. Rather, both price and service are provided to us by our railroad carrier. With the railroads exempt from the nation's antitrust laws, the

only option available to customers served by a single railroad is to petition the Surface Transportation Board for relief.

The process for rate challenges at the Surface Transportation Board (STB) is costly and burdensome. At the end of a twenty year contact with LRS, BNSF more than doubled the coal hauling rate for the plant. On October 19, 2004, Basin Electric, LRS's operator, and Western Fuels, which acts as agent for Basin's coal supply and transportation needs, filed a complaint with the STB to review BNSF's rate increases. Rate complaints at the STB are costly, lengthy, complex and rarely result in a victory for the rail customer. The cost simply to file the LRS/Western Fuels complaint was \$102,000, but that filing fee since has been increased to \$140,600. By contrast, the cost of filing a similar case in the federal district court is \$150.

In contrast to most other regulatory systems in the nation, the customer must prove first that it is subject to a railroad monopoly and then must carry the burden of proving that the rate is unreasonably high. In a normal regulatory process, the burden of justifying a rate falls on the monopoly that is being regulated. The rate reasonableness standard is not the normal: cost plus a reasonable rate of return. The rate reasonableness standard employed by the Surface Transportation Board is that the customer must prove that it can build and maintain its own railroad to move its product at a price less than the rate that is being challenged. This requires the rail customer to employ economists to construct a highly efficient "virtual" railroad that roughly follows the route and bears the same costs at the incumbent railroad. Not surprisingly, this proof is complicated and expensive. To date, LRS and its co-owners have spent \$5 million on the prosecution of the rate case, which has been pending almost two years. A final judgment is not expected in this case for at least another year.

CONCLUSION

From the perspective of Tri-State and, perhaps, other coal transportation customers, we are faced with a national rail system that may not be able to deliver coal to our generators reliably and at reasonable costs unless changes are made. Tri-State recognizes that all rail traffic is growing and there is a need for investment in railroad infrastructure. Tri-State supports increased infrastructure but it must come with oversight that ensures the reliable delivery of coal resources.

Tri-State recommends that the Committee and Congress pursue avenues that would ensure the reliability of coal transportation while at the same time addressing legitimate railroad infrastructure investment needs. In the Senate, we support the adoption of S. 919 the Railroad Competition Act of 2005 designed to address the railroad monopoly issues that we confront today. The legislation does not address as clearly the rail delivery problems that have become acute since this legislation was introduced. The delivery problems must be addressed by Congress as well.

The railroads have suggested that the answer to current rail service and capacity problems is for Congress to enact an investment tax credit to encourage increased investment in railroad infrastructure. We could such a tax incentive if Congress coupled the investment tax credit with a defined and enforceable "obligation to serve" by the Surface Transportation Board. In addition, Congress should insist that:

- The investment tax credit must be coupled with specific provisions from S. 919 and H.R. 2047 that overturn the anticompetitive rulings of the STB that allow the railroads to block rail customer access to competing railroads.
- The investment tax credit must be coupled with specific provisions from S. 919 and H.R. 2047 that require a new rate reasonableness standard based on railroad cost of service for the movement in question, provide filing fees in line with filing fees in U.S. District Court and require the railroad to justify a rate when the complainant has proved the rate is within the jurisdiction of the STB and the complainant is subject to railroad monopoly power for the movement in question.
- The STB must require a certain level of service on railroad lines and railroads must make investments in railroad infrastructure.

We understand that legislation may soon be introduced in the Senate, providing a 25 percent investment tax credit for railroad infrastructure. This might be an ideal time for Members of this Committee to stress with the Chairman, the Ranking Member, and the other Members of the Senate Committee on Finance that no rail investment tax credit bill should move forward unless and until it contains provisions that correct the abuses of the current freight rail system.

Mr. Chairman, again I thank you for conducting this hearing today. The 1.2 million member-consumers that Tri-State serves have real concerns about our current rail service and our ability to receive reliable delivery of coal to coal generators we

plan to build in the future. I would also ask that the letters from the Arkansas Electric Cooperative and BNSF that I referenced earlier be included in the hearing record, along with the recent House Subcommittee on Railroads testimony of Mr. Glenn English, CEO of the National Rural Electric Cooperative Association.*

The CHAIRMAN. Thank you very much. I am very sorry that the brevity of the hearing will limit your ability to discuss with us the total problem, as you see it, but perhaps we will get a little more out of you when we ask you questions.

Let us proceed then to Mr. Steven Jackson, director of power supply, Municipal Electric Authority of Georgia.

STATEMENT OF STEVEN JACKSON, DIRECTOR, POWER SUPPLY, MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA, ATLANTA, GA

Mr. JACKSON. Thank you, Mr. Chairman, and committee members. I am Steven Jackson. I am the director of power supply for MEAG Power, as we are known. We are a public power joint action agency that serves 49 communities in the State of Georgia, approximately 600,000 citizens, and large and small businesses. I appreciate the opportunity to testify today considering these coal-based electricity issues.

I am also pleased to state that the American Public Power Association supports this testimony on behalf of all of their municipal coal-based facilities.

MEAG owns coal generation that provides 41 percent of our energy supply. I will specifically address plant Scherer Units 1 and 2, which we are owners of, which were converted to burn PRB fuel in 2004 for compliance with new environmental rules. MEAG invested about \$46 million as its portion of the cost for this conversion in plant control equipment, rail sidings to add capacity to hold five additional trains at the site, and eight unit train sets of rail cars as part of that conversion. These facilities were added in order to ensure that the coal deliveries were not adversely impacted at the plant site. These units are 25 percent of our system capacity and provide 27 percent of the energy supply to our member cities.

Our co-owned units, including Plant Scherer and our other facility, Plant Wansley, are captive to delivery by the Norfolk Southern Railroad. The Powder River Basin fuel that is delivered to Plant Scherer is also served by an interchange agreement with the Burlington Northern Santa Fe Railroad, and that coal is transferred in Memphis, Tennessee.

Adequate coal inventory levels are key to us providing electric service from these units. Rail coal delivery is integral to the reliable generation and transmission of electricity. The inability of railroads to provide a reliable delivery cycle results in operational impacts and additional cost to our members when we are forced to shift to higher alternate resources to meet demand requirements of our members.

MEAG Power has failed to receive reliable and timely delivery of coal in its generating stations over the last 2 years. We have been impacted by these reduced deliveries by requiring to conserve coal through reduction of our unit output, increased costs from replacement energy, and importing coal in order to supplement the Pow-

*The letter and testimony have been retained in committee files.

der River Basin fuel supply. We estimate these impacts over the last 2 years being approximately \$28 million to our members.

These inconsistent coal deliveries began to cause us operational issues at the end of 2004. Demands and impacts on the railroads from new freight and the 2004 hurricanes were felt. We lost about 10 days of inventory at the end of 2004 and continued to have problems in 2005. We reduced generating output at Plant Scherer in April of last year for 8 hours per day for the entire month, and we also added four additional train sets into our service to improve the deliveries.

The situation continued to deteriorate in 2005 with the damage in the PRB joint line area. This resulted in, by the end of the summer, us achieving a low of 2 days' supply of coal inventory for our Plant Scherer. We took drastic measures to restore the inventory. On October 1, we began reducing unit output 12 hours a day out of both units, and we continued that through April of this year. We are currently reducing the output 8 hours a day to continue to build our inventories. It is anticipated that we will continue some level of reduction in the unit output through the end of this year.

We have also begun importing coal from Indonesia, which is similar coal to the Powder River Basin fuel. We began this in January 2006 and we expect to continue that through the end of the year. We have added about 16 days of inventory to our supply through this source.

The CHAIRMAN. Would you stop a minute so we get this right? You are telling us that you are here on a railroad mainline that carries coal from the Powder River Basin to your association, and that they do not have the capacity or the ability to deliver consistently the coal you need? So you have to buy Indonesian coal to supply your consumers?

Mr. JACKSON. That is correct.

The CHAIRMAN. That is what you just told us?

Mr. JACKSON. Yes, Mr. Chairman, that is correct.

The CHAIRMAN. How does that get to you?

Mr. JACKSON. It is delivered through the port in Charleston, South Carolina, and the railroads bring it to the facility.

The CHAIRMAN. So it floats across the ocean.

Mr. JACKSON. That is correct.

The CHAIRMAN. How many thousand miles?

Mr. JACKSON. I do not know that, Mr. Chairman.

The CHAIRMAN. Wherever it is in Indonesia, we can see it out there on the map.

What does the railroad say about the fact that you cannot get coal from them?

Mr. JACKSON. Well, we have been working with the railroads trying to do everything we can to improve our deliveries. They have indicated they expect deliveries to improve. We have not seen that improvement to date. We are hopeful that it does improve. We do not plan to do this on a long-term basis. We do feel like with the deliveries—

The CHAIRMAN. Do the railroads say there is not enough coal in the Powder River Basin?

Mr. JACKSON. No, they have not said that. We believe there is plenty of coal in the Powder River Basin as well.

The CHAIRMAN. So there is something else wrong. It is not how much coal they have. There is something else wrong in this system. It is not the availability of coal. Right?

Mr. JACKSON. We believe it is the fragility of the railroad system, that when there is an interruption on the railroad system, they cannot adequately recover from that in a timely manner. We feel like some investment in infrastructure, some additional robustness in that delivery supply chain is part of the answer.

The CHAIRMAN. Were you as a customer a consistent customer, or did something go up and down and you, all of a sudden, made great demands that they could not meet? Or were they just unable to meet normal, consistent needs as you projected them to the railroads?

Mr. JACKSON. When we made the conversion in 2004, we did increase our demand for fuel. We have discussed that with the railroads. We have helped them to understand what deliveries that we require. So we are 2 years into that conversion. We feel like they have a good understanding of what supply needs we have.

The CHAIRMAN. You are 2 years into the conversion when the supply shortages that you are describing to the committee are occurring.

Mr. JACKSON. Correct. We have had a lot of variability in our deliveries, up and down, differences each month, which makes it difficult for us to plan what level of inventory should we carry and what other measures we need to take to maintain our generation in our inventory levels.

The CHAIRMAN. What does the railroad say to you as to why they cannot get you more coal?

Mr. JACKSON. Well, they have indicated that they have had issues on their system, such as the joint line flooding, and other maintenance issues. They have related it to more specific incidents that have occurred on the system that have reduced their ability to supply us consistently. They have told us that they are making modifications, they are making infrastructure improvements that should correct these issues. We have not seen the results of those yet.

The CHAIRMAN. So these excuses that you just told me about—repeat them again to me so I can kind of generalize them. What are they? Something happens to their line?

Mr. JACKSON. Yes. For example, the flooding they had in the Powder River Basin last year that damaged the line. If they have a derailment, it may damage a section of the line, or maintenance and other upgrades that they are required to do.

The CHAIRMAN. Well, you would think that you would get over that. Right?

Mr. JACKSON. That is correct.

The CHAIRMAN. If those kind of things are going to last forever, it would look like you would even plan for them.

But what happened? They have not solved those problems yet?

Mr. JACKSON. No. We believe the amount of traffic other than just coal traffic that the system is trying to handle has overloaded the system, and they have not been able to recover.

The CHAIRMAN. Proceed with your testimony.

Mr. JACKSON. Thank you, Mr. Chairman.

I would like just to summarize some of the cost impacts we were discussing. Our ratepayers have incurred about \$21 million in capital expenditures to help address this issue with the additional rail sidings, additional rail cars we have committed to, and as I mentioned earlier, about \$28 million in operating cost increases from the imported coal, and other replacement fuels and electricity.

Just to summarize, in conclusion, we are not pleased to have to come forward in a public forum to raise these issues about our railroad partners. It is in our best interest that the Nation's railroads be robust financially. It is in our best interest and the best interest of our customers that the railroads provide reliable service at fair, reasonable rates.

We believe that the current Federal policy on railroads could be changed to address several of these problems.

First, we would recommend that the railroads are providing an essential service, as do the electric utilities, and would suggest that they be subject to an enforceable obligation to serve. We understand from our attorneys that the Surface Transportation Board does acknowledge that it has rarely used emergency authority to address rail service problems.

Second, we would follow the National Association of Regulators resolution calling for mandatory reliability standards for the railroads. They have significant market and pricing power at this time, and they have no supervision by any government agency.

Third, we would suggest that Congress look at the record of the Surface Transportation Board. We believe this agency has not protected rail customers from the railroad monopoly power. Indeed, we believe they have allowed anti-competitive railroad actions.

Finally, we understand that the railroad industry is seeking the 25 percent investment tax credit. We do not want to leave the impression that because of our issues, that we blindly support that proposal. We do support it, but we support it if it is an avenue to address the concerns that we mentioned today and focuses the railroads' investment on domestic needs such as coal and other domestic products, and that it is not strictly focused on some of the fast-growing segments of their traffic, such as the intermodal container imports.

Thank you, Mr. Chairman and members of the committee. That concludes my testimony at this time.

[The prepared statement of Mr. Jackson follows:]

PREPARED STATEMENT OF STEVEN JACKSON, DIRECTOR, POWER SUPPLY, MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA, ATLANTA, GA

Mr. Chairman and members of the committee, my name is Steven M. Jackson, and I am Director, Power Supply for MEAG Power. MEAG Power is a public power Joint Action Agency and the third largest electric power supplier in Georgia. MEAG Power's primary purpose is to generate and transmit reliable and economic wholesale power to 49 Georgia communities—including approximately 600,000 citizens and many large and small businesses. I appreciate the opportunity to testify today for MEAG Power on coal-based electricity generation issues, especially those related to rail deliveries of coal.

I am pleased to state that the American Public Power Association supports this testimony on behalf of all of its coal-based municipal power facilities.

COAL-BASED GENERATION IS ESSENTIAL IN MEETING MEAG POWER'S
OBLIGATION TO SERVE

MEAG Power owns portions of four coal fired generating units that provide thirty-six percent of our total system capacity and forty-one percent of energy supply for our member communities. The two generating units at Plant Scherer are fueled by Powder River Basin (PRB) coal, comprising twenty-five percent of the system capacity and twenty-seven percent of system energy. The two units at Plant Wansley burn Central Appalachian coal and comprise the remaining eleven percent of system coal capacity.

Plant Scherer Units 1 and 2 were converted to burn PRB fuel in 2004 for compliance with new environmental rules passed by Congress. MEAG Power invested \$46.0 million as its portion of the costs for this conversion. In addition to plant control equipment, additional rail sidings with the capacity to hold five trains were added and eight unit train sets of rail cars were purchased. These facilities were added in order to ensure that coal deliveries were not adversely impacted at the plant site. These units have become the lowest cost fossil resource for the MEAG Power members and an essential base load supply resource for the system.

Both MEAG Power generating plants are captive to delivery by the Norfolk Southern (NS) railroad. NS delivers the PRB fuel to Plant Scherer after an interchange with Burlington Northern Santa Fe (BNSF) in Memphis, Tennessee. BNSF provides the initial portion of the PRB haul under separate contract. The plant is approximately 2000 miles (4000 miles roundtrip) from the Powder River Basin and coal is delivered by thirty-seven sets of privately owned 124 car unit trains. These train sets are constantly in motion cycling from the PRB to our plants and back.

MEAG Power must maintain inventory levels that both support ongoing unit operations and also sustain operations during disruptions in fuel deliveries. Consistent performance by the railroads in providing a reliable delivery cycle is essential to managing coal inventory levels and planning the entire cycle of purchasing, scheduling and providing rail cars for this supply chain.

Reliability of electric generation and transmission is the key to meeting MEAG Power's obligation to serve. Rail coal delivery is integral to the reliable generation and transmission of electricity. The inability of railroads to provide a reliable delivery cycle results in operational impacts and additional costs to our members when we are forced to shift to higher priced alternate resources to meet the demand requirements of our members.

IMPACTS OF RAILROAD PERFORMANCE ON MEAG POWER

MEAG Power, along with many other utilities, has failed to receive reliable and timely delivery of coal to its generating stations over the last two years. MEAG Power impacts from reduced deliveries include: coal conservation through reduction of unit output, increased costs due to purchases of replacement energy from higher cost resources and importing coal in order to supplement PRB coal supply to achieve reliability of operation. These impacts over the last two years are estimated to have increased the cost to MEAG Power members \$28 million.

The four units at Plant Scherer (MEAG Power owns shares in two of the four units) require at least 90 unit train deliveries per month to support ongoing operations and additional unit train deliveries to build inventory levels against potential supply interruptions. The plant has averaged the receipt of 80 trains per month or eighty-nine percent of needed deliveries since January of 2005. Although we have been more fortunate in our coal deliveries than some, these delivery levels do not allow building of inventory or operation of the unit at full output. Our inconsistent coal deliveries have occurred even though sidings and rail cars were added to improve the capability of the facility to handle the coal, at our expense, and third party unloading crews have been added, with the railroad's support, to improve train unloading times at the plant.

The inconsistent coal deliveries began to result in major operational issues at the end of 2004. As demands and impacts on the railroad from new freight and the 2004 hurricane began to be felt, MEAG Power lost approximately ten days of Scherer inventory during the last two months of 2004 and supply issues continued into 2005, further reducing inventories. MEAG Power reduced generating output at Plant Scherer Unit 1 during the month of April 2005 for eight hours per day in order to increase inventory for the high load summer period. In addition, four additional train sets were added to service for the facility—again at our own expense.

The fragile situation regarding railroad reliability became more apparent in the spring of 2005 with the major damage to the PRB joint line from flooding. The disruptions occasioned by the flood damage and resulting reconstruction continued our delivery problems through the summer of 2005 and resulted in inventory levels

reaching a low of 2 days supply of coal by the end of September 2005. Drastic measures were required to restore the inventory. On October 1, 2005, MEAG Power began reducing generating output in its share of the plant for 12 hours per day. These fuel conservation levels continued through April 2006 and are continuing now for 8 hours per day. It is anticipated that some reduction of unit output will be required through the remainder of this year based on current delivery performance.

As a result of the continued inconsistency of supply delivery, MEAG Power began looking for off shore sources of fuel that limited our exposure from unreliable rail coal deliveries of PRB coal. Coal imports from Indonesia were begun in January 2006 in order to ensure that inventory levels can be improved. We are importing Indonesian coal because it has many of the characteristics of PRB coal and can be used in our boilers. These deliveries are currently scheduled to continue through the end of the year and will continue long-term if necessary. These additional tons are equivalent to 16 days of inventory and cost the MEAG Power members a premium of \$5.1 million over the cost of PRB coal.

Mr. Chairman, we do not wish to import foreign coal as a long-term strategy. With twenty-five percent of the coal supply of the world within our borders and given the uncertainties associated with foreign fuel supplies, we want to rely on U.S. coal, specifically Powder River Basin coal. We have made substantial capital investments to retrofit our plants to use PRB coal. We have invested in train sets, unloading facilities, sidings and other capital expenditures to facilitate the efficient delivery of PRB coal. Despite all of this, we continue to experience unreliable railroad transportation service. Unless our domestic coal delivery situation improves, in order to protect the capital investments of our member communities, we will be forced to consider seriously a long-term strategy of importing foreign coal to supplement our shortfall in domestic coal.

Finally, with respect to the impact on MEAG Power and its member communities from the difficulties we have encountered with PRB coal deliveries, we calculate that our member communities and their rate payers have incurred to date \$21 million in additional capital expenditures to address this problem and \$28 million in increased operating costs from imported coal and replacement fuels and electricity.

CONCLUSIONS AND RECOMMENDATIONS

Mr. Chairman, in conclusion, let me make several points. We at MEAG Power are not pleased to have to come forward in a public forum to raise these issues about our railroad partners. It is in our best interest that the nation's railroads be robust financially. However, it is also in our best interest and the best interest of our customer communities that the nation's railroads provide reliable service at fair and reasonable rates. Under the current federal policy, the railroads are enjoying robust financial health, but they are not providing reliable service at fair and reasonable rates. Thus, we believe that current federal railroad policy must be changed to address these problems.

We would like to make several recommendations to the Committee:

- First, we believe that the railroads provide an essential service to the nation just as do electric utilities and must operate subject to an enforceable "obligation to serve". We understand from our attorneys and others that the Surface Transportation Board (STB) does not acknowledge that it has more than a rarely used emergency authority to address railroad service problems. While we believe that the Board has more authority with respect to service problems than they are using, we believe current law must be clarified to provide a clearly defined railroad "obligation to serve" that is similar to our own and that the STB must be given the authority and the direction to enforce this obligation. Of course, this would not be necessary if there were competitive choices for coal transportation, but there are not. Thus, a forum is needed where rail customers without access to competition may appeal for relief from service problems.
- Second, the February 2006 NARUC resolution calling for mandatory reliability standards for the railroads merits serious consideration. Today, the major railroads have significant market and pricing power over their customers, but are operating without supervision by any governmental agency. The systems they might desire to develop to maximize profits might not be the systems that are required to move the nation's freight. Some government oversight in this area appears to be appropriate.
- Third, Congress should take a careful look at the record of the Surface Transportation Board. We believe that this agency has not protected rail customers from railroad monopoly power. Indeed, this agency has allowed anticompetitive railroad actions and has adopted a rate protection process where all the burdens of proof are on the complainant and the rate standard is almost impossible to

meet. We believe this agency must either be strengthened and redirected or abolished and replaced with a more robust agency with clear directives from Congress.

- Finally, we understand that the railroad industry is seeking a twenty-five percent investment tax credit for railroad infrastructure. Some Members may be under the mistaken impression that because rail customers are confronting rail service inadequacies we would support automatically such a tax credit proposition. We can only support such a tax credit if Congress also addresses our concerns set forth herein and the tax credit is conditioned to ensure that the qualifying investments are focused on rail movements of domestic products, such as coal, where there are current delivery problems. We understand that the fastest growing segment of railroad traffic is intermodal container imports and fear that the railroads will focus any subsidized investments in this area.

Again, thank you Mr. Chairman and Members of the Committee for the opportunity to testify before you today on this critical issue.

The CHAIRMAN. Thank you very much.

Now, we are not going to proceed with Mr. Hamberger, although he was next on the list. You are going to have to wait, you know, like the slugger.

[Laughter.]

The CHAIRMAN. You are going to have to wrap it up as best you can. When everything is torn up, we will see if you can put anything back together.

Mr. HAMBERGER. It will be my pleasure.

The CHAIRMAN. It will be your pleasure to try. Right?

[Laughter.]

Mr. HAMBERGER. Yes.

The CHAIRMAN. Next we have David Wilks. Will you please proceed, Mr. Wilks? You are testifying on behalf of Consumers United for Rail Equity and the Edison Electric Institute.

STATEMENT OF DAVID WILKS, PRESIDENT OF ENERGY SUPPLY, XCEL ENERGY, MINNEAPOLIS, MN, ON BEHALF OF THE EDISON ELECTRIC INSTITUTE AND CONSUMERS UNITED FOR RAIL EQUIITY

Mr. WILKS. Thank you, Mr. Chairman and members of the committee. I am David M. Wilks, president of energy supply for Xcel Energy. Xcel Energy is a major electric and natural gas company based in Minneapolis, Minnesota, which serves 3.3 million electricity customers and 1.8 million natural gas customers in 10 Western and Midwestern States. I appreciate the opportunity to testify to you today on coal-based generation reliability and especially those issues related to rail deliveries of coal.

As you mentioned, Mr. Chairman, I am also testifying today on behalf of the Edison Electric Institute and Consumers United for Rail Equity.

Xcel Energy generates 78 million kilowatt hours of electricity annually. Of that, 72 percent is derived from coal-fired generation, and almost 100 percent of that coal-fired generation is supplied by rail.

For utilities like Xcel that rely heavily on coal-fired generation, maintaining an efficient and reliable coal supply chain, including railroads, is a critical component of prudent inventory management. Unfortunately, it has become increasingly difficult to maintain adequate coal stockpiles, particularly in 2005 and 2006, and many utilities have been forced to reduce outputs from coal-fired

generation, including Xcel, and have been putting greater reliance on natural gas generation. Some, as was mentioned earlier, have been using sources of coal that are foreign as well in their supply simply to meet the reliability requirements.

Discussions about this problem with our railroad providers has been very unsatisfactory so far, and we continue to receive insufficient coal to meet our needs, let alone our depleted stockpiles. In the case of Xcel, we have several plants that are struggling to maintain even 10 days of coal on the ground.

The Northern American Electric Reliability Council placed the coal transportation issue on its watch list and will continue to monitor developments both for the coming summer and beyond.

EEI, APPA, NRECA have formally expressed reliability related concerns about rail service to the Federal Energy Regulatory Commission.

Reliable rail service from the Powder River Basin is obviously a critical necessity, particularly as the Nation increases its use of PRB coal in the future.

There are several steps that Congress can take to help improve rail service for coal-dependent electric utilities.

First, Congress should continue to exercise appropriate oversight through hearings like the one being held today.

Second, Congress should clarify that the railroads have an obligation to serve and that the STB has both the authority and the responsibility to enforce this obligation. Mandatory reliability standards like the ones supported by the electric utility industry in the Energy Policy Act of 2005, might also be necessary.

Third, Congress should enact the comprehensive STB reforms contained in S. 919, introduced by Senator Burns and cosponsored by Senators Thomas, Craig, Dorgan, and Johnson of this committee, among others.

In addition, Congress should eliminate the railroad industry's outdated exemption from antitrust law.

Finally, if Congress—

The CHAIRMAN. Would you tell me that last one please?

Mr. WILKS. Sir?

The CHAIRMAN. Would you explain the last statement please?

Mr. WILKS. Yes, having to do with antitrust law. Antitrust law is set up for entities that are adequately being regulated by some independent and thorough regulator. Our belief is that in the case of the railroads, that that does not exist with the STB. Consequently, the way to do that is by basically eliminating them from the antitrust provisions and, therefore, citizens and interested parties like ours can take them to task on their behavior.

The CHAIRMAN. Well, how many railroads serve you?

Mr. WILKS. We are served primarily by two railroads.

The CHAIRMAN. Are there not only two railroads in this area we are speaking of?

Mr. WILKS. Out of the Powder River Basin, there are two railroads.

The CHAIRMAN. Who are they?

Mr. WILKS. Burlington Northern, Union Pacific.

The CHAIRMAN. And they are the ones you are referring to that you think we need to take some additional regulatory action to-

wards them? It must be them. They are the only ones around. Right?

Mr. WILKS. Well, certainly Xcel Energy and the other users coming from the Powder River Basin have our most interest in those two railroads performing very well.

The CHAIRMAN. Right.

And what does a mandatory standard mean?

Mr. WILKS. Service standards are applied by regulatory agencies to ensure the customers are getting the service that is needed. In our case, we have utility standards that apply for performance of the utility, such as regular supply of the electricity, so on and so forth.

The CHAIRMAN. So you are saying that we should consider placing those against the railroads, which would mean what?

Mr. WILKS. It would mean that they would have to be accountable to the appropriate agency, in this case, probably the STB, relative to their performance. So things like cycle times of deliveries, et cetera, would be monitored and measured by a regulatory body.

The CHAIRMAN. So the commitments would have to be lived up to more stringently in terms of them versus you because there would be an overarching, mandatory standard that would be set and enforced by somebody.

Mr. WILKS. Yes, sir. That is one of the options we are recommending.

The CHAIRMAN. All right. Please proceed.

Mr. WILKS. Finally, if Congress considers a tax credit for investments in railroad infrastructure, such a tax credit should be coupled with provisions that address the concerns of rail customers, including coal-dependent electric utilities.

In conclusion, more than ever before, electric utilities that supply significant amounts of coal-fired generation depend heavily on railroads for reliable and affordable long-distance shipments of coal. In the wake of recent coal delivery challenges, utilities will need to work even more closely with the railroads to ensure that there is an effective coal supply and that that supply chain is maintained. Every day Xcel Energy and other electricity utilities must meet a strict obligation to serve our customers, and Congress can help make the railroads more responsive to their customers as well through needed oversight and legislative reforms.

Thank you again to this committee for allowing me the opportunity to address you today. I will be happy to answer any questions.

[The prepared statement of Mr. Wilks follows:]

PREPARED STATEMENT OF DAVID WILKS, PRESIDENT OF ENERGY SUPPLY, XCEL ENERGY, MINNEAPOLIS, MN, ON BEHALF OF THE EDISON ELECTRIC INSTITUTE AND CONSUMERS UNITED FOR RAIL EQUITY

Mr. Chairman and members of the committee, my name is David M. Wilks, and I am President of Energy Supply for Xcel Energy. Xcel Energy is a major electric and natural gas company, with annual revenues of \$10 billion. Based in Minneapolis, Minnesota, Xcel Energy operates in ten Western and Midwestern states. The company provides a comprehensive portfolio of energy-related products and services to 3.3 million electricity customers and 1.8 million natural gas customers, all of whom are directly affected by the important issues being raised in this hearing. I appreciate the opportunity to testify today on coal-based generation reliability issues, especially those related to rail deliveries of coal.

I am testifying today on behalf of the Edison Electric Institute (EEI). EEI is the association of U.S. shareholder-owned electric utilities and industry affiliates and associates worldwide. Richard Kelly, Chief Executive Officer of Xcel Energy, chairs an EEI CEO Task Force on Rail Issues, which provides leadership and guidance to the association on rail policy matters.

I am also appearing before you today on behalf of Consumers United for Rail Equity (CURE), a multi-industry coalition of captive rail-customers focused on federal policies to help achieve reliable customer service at reasonable rates in the freight rail industry through effective competition and other means. CURE members include major electric utility associations such as EEI, the American Public Power Association (APPA) and the National Rural Electric Cooperative Association (NRECA), in addition to individual shareholder-owned, cooperative and government-owned utilities with coal-based generation. The coalition also includes representatives of a broad array of other vital industries, including chemical manufacturers and processors; paper, pulp and forest products; agricultural commodities producers and processors; cement and building materials suppliers; and many more. All of these industries are also concerned about the price and reliability of rail service.

THE IMPORTANCE OF COAL-BASED GENERATION AND RELIABLE COAL TRANSPORTATION

The United States has been called “the Saudi Arabia of coal.” The U.S. has about twenty five percent of the world’s total coal reserves, with domestic coal resources sufficient to meet our energy needs for more than 250 years. Coal continues to be a critically important fuel for electricity generation, especially baseload plants important to maintaining adequate electricity supply. Developing clean coal technologies and maintaining coal’s ability to compete on costs are two key drivers to the future use of coal. It is also critical that electric utilities be able to depend on reliable, affordable coal deliveries in order to meet their own legal obligation to provide reliable electric service. Thus, reliable rail coal movement to utility plants is an integral part of the broader issues associated with electric reliability.

Coal and electricity are inextricably linked to the economic health of the nation. Coal is the fuel for more than half of our country’s electric generation, and electric generation drives economic growth. Coal is an affordable and abundant domestic fuel with substantial national security benefits that, with today’s technology, is burned more cleanly and efficiently than ever. Thanks to the Energy Policy Act of 2005, which this committee helped to craft, we expect to see even greater development and deployment of clean coal technology in the coming years. Electric demand, coal-fired generation and GDP growth are all projected to grow at a steady pace to 2025 and beyond.

Because of its bulk nature, coal generally is transported from mines to power plants by rail (or sometimes by rail and water)—which is the only feasible and economic means of delivering the fuel. Mine-mouth power plants could potentially avoid the need to transport some coal, but they usually require the construction of long-distance electricity transmission lines to deliver electricity to customers. Siting and constructing new electricity transmission lines, as Senators on this committee are well aware, present their own set of challenges.

Today, most coal moves in unit trains between the mines and the power plants. These trains typically consist of 100-130 cars owned or provided by the utility, with 100-120+ tons of coal per car, which shuttle continuously from the coal mine to the power plant without ever being uncoupled. Until recently, this coal transportation service has been contracted between the railroad and the power company, although the two coal hauling western carriers have each implemented new non-competitive public pricing programs that they are seeking to impose on all new coal business. Often, particularly in the West, the utility owns or leases the coal cars used; the railroad provides the track, the engine, the crews and the fuel.

Xcel Energy generates 78.6 GWhs of electricity annually. Of that, 72 percent is derived from coal-fired generation, and 100 percent of such coal-fired generation is supplied by rail. Without the energy that these coal-fired plants produce, Xcel would be unable to meet its obligation to provide reliable energy to its customers.

With the development of competitive wholesale electricity markets, and often at the urging—and with the approval—of state regulatory commissions which oversee utility rates, electric utilities have sought to reduce their costs and conserve capital by more efficiently managing their coal stockpiles at leaner, but responsible levels. Thus, over recent years, the industry norm for coal piles has been reduced from 60-day supplies of coal on site to 30 days of coal on site, in order to reduce the cost of maintaining large fuel inventories. A critical component of prudent inventory management is maintaining an efficient and reliable coal supply chain, including the railroads. Most utilities, like Xcel, work extensively with their coal suppliers and

rail providers to keep them informed of their plant requirements on an annual and monthly basis, and utilities usually communicate with their rail service providers daily about individual plant requirements.

RECENT COAL DELIVERY CHALLENGES

Unfortunately, it has become increasingly difficult to maintain adequate coal stockpiles, especially over the last couple of years. Regulated electric utilities like Xcel Energy have a strict legal "obligation to serve" their customers. So do railroads, who have a common carrier obligation under 49 U.S.C. Section 11101(a) to "provide transportation or service on reasonable request" with regard to coal and other commodities. Unfortunately, by most accounts, the railroads in recent years have been failing to provide reliable and timely service in transporting coal to utility power plants. Because of recent rail delays and other rail service problems, many utilities have been forced to reduce outputs from coal-fired generating plants—requiring greater reliance on natural gas-fired generation and some have even resorted to importing coal from overseas sources as far away as Indonesia, in order to meet the demand for electricity.

Like most utilities in the West and Midwest, Xcel receives most of its coal by rail from the Powder River Basin (PRB) coal seam of Wyoming and Montana. The PRB is the most significant coal producing region in the United States, with approximately 40 percent of all U.S. coal production mined there. PRB coal has been particularly attractive to electric utilities because of its relatively lower price and low sulfur content.

Coal companies, railroads, and utilities have cooperated closely in the past to ensure that adequate supplies of coal are delivered from the PRB and other coal producing regions, and normally this would be our preferred approach to solving transportation problems. However, utilities have seen a marked deterioration in rail service in recent years, particularly for coal deliveries from the PRB. Our discussions about this problem with our rail providers have been unsatisfactory so far, and we continue to receive insufficient coal to meet our demands, let alone replenish depleted stockpiles.

Two railroads, the Burlington Northern Santa Fe (BNSF) and the Union Pacific (UP), move all of the coal out of the PRB, much of it over a Joint Line they operate together. In the spring of 2005, two derailments occurred on the Joint Line, significantly reducing rail deliveries of coal by 15 to 20 percent. While significant repairs have been underway for months and are scheduled to be completed by the end of the year, train speeds remain reduced to avoid further derailments. Delivery levels have not yet recovered, and some utility coal stockpiles remain significantly lower than desired levels. In the case of Xcel, we have several plants that are struggling to maintain even 10 days of coal on the ground. At a minimum, the situation appears to bring into serious question whether the carriers are meeting their common carrier obligation to provide service to the public.

The shortfall in rail coal deliveries has had many far-reaching consequences. Over the past year, numerous utilities were forced to invoke coal conservation programs under which they burned natural gas to replace coal-fired generation or purchased additional power—much of it from gas-fired plants—in the wholesale market, often at dramatically higher prices than the cost of their own coal-fired resources. Xcel alone has incurred tens of millions of dollars in additional power costs due to coal conservation programs at our plants. Forcing utilities to take coal-fired plants off-line or reduce electric generation output to conserve coal stockpiles presents a situation of enormous potential consequence—especially given the amount of time the service lapses have been continuing. The significant additional costs resulting from rail service failures have put additional upward pressure on consumers' electricity rates.

In order to replace an estimated 20 million ton shortfall in PRB coal deliveries in 2006, electric generators may be forced to use approximately 340 billion cubic feet of natural gas, costing at least \$2 billion more than the coal that will not be delivered this year. The additional use of natural gas to generate electricity in place of coal comes at a particularly inopportune time, as the price of natural gas across the country remains at near record levels, causing additional pain not just for electricity consumers but also those using natural gas as a feedstock for manufacturing products or as a home heating fuel. Restriction in the supply of PRB coal also has likely contributed to a doubling of the coal spot market price, increasing those prices from roughly \$7 per ton to more than \$14 per ton in 2005.

In some cases, the situation has become so bad that utilities have found it necessary to sue the railroads for damages resulting from delivery shortfalls. For instance, Entergy Arkansas is involved in litigation against the Union Pacific over the

failure of the rail carrier to meet its coal delivery obligations last year. The utility had to cut back production from two coal-fired plants, forcing it to increase its power purchases in the wholesale market. Also, Entergy is one of a handful of utilities that have taken the extraordinary step of importing foreign coal—in this case from Colombia—due to the inability of the railroads to move adequate amounts of domestic coal in a timely manner.

Some EEI member companies report they have been able to restore their coal stockpiles close to desired levels in recent weeks during scheduled maintenance outages at their coal plants. As the Senators on this committee know, many generating plants are normally taken off line in the spring for maintenance prior to the summer air conditioning season. However, coal-dependent utilities remain concerned about the potential for a recurrence of problems if faced with a particularly hot summer, new delays on PRB rail lines, or other unforeseen circumstances that could suddenly trigger new pressures on coal stockpiles.

It is important to note that the North American Electric Reliability Council (NERC) is taking very seriously the potential impact that coal delivery problems could have on electric reliability. According to NERC's *2006 Summer Assessment*, released this month:

PRB deliveries are increasing, but not enough to restore coal inventories to pre-curtailment levels. Coal delivery limitations do not appear to present a reliability problem for this summer. However, some utilities will need to purchase electricity or use alternate fuels to conserve their coal supplies to ensure that the coal generating units will be available at peak. If coal delivery problems worsen, the ability of some entities to continue to meet electricity demand might be reduced.¹

As a result of these concerns, NERC has placed the PRB issue on its "Watch List" and will continue to monitor developments, both for the coming summer and for the longer term.

EEI, APPA and NRECA expressed similar reliability-related concerns in a May 1, 2006, letter to the Federal Energy Regulatory Commission (FERC). A copy of that letter is attached. The Electric Power Supply Association (EPSA) sent a similar letter to FERC. Later, the Association of American Railroads (AAR) sent its own letter expressing an interest in participating in a FERC inquiry into these issues. FERC's Office of Enforcement only last week reported that: "Railroad disruptions and strong coal demand for generation in the face of high natural gas prices have driven lower stockpile levels for the past few years."² We look forward to working with FERC and interested stakeholders as the Commission further examines this issue.

Individual states are also taking note of coal shipping problems, prompting concerns about coal stockpiles. For instance, the Public Service Commission of Wisconsin announced in March 2006 plans to investigate the impacts of increasing rail coal shipping rates and reliability problems on electricity generation and costs in that state. In its announcement, the PSCW estimated that Wisconsin utilities incurred nearly \$50 million in costs from higher-priced natural gas-fired generation as part of coal conservation programs invoked due to reduced shipments of PRB coal. Arkansas is another state where these issues have come under scrutiny by the state utility regulatory commission.

Reliable rail service from the Powder River Basin obviously is a critical necessity, particularly as the nation increases its use of PRB coal. According to data from Global Energy Decisions, 14,330 MW of additional coal-fired capacity utilizing non-mine mouth PRB coal is expected to be brought online in the U.S. between now and 2010, with an additional 2650 MW of capacity currently scheduled to come online by 2013. Much of this new capacity will be owned by TXU, which only last month announced plans to build 6,400 MW of new coal-fired generation in Texas by 2009, all of it projected to rely on PRB coal as a primary fuel. Other states where this new capacity will be added include Arizona, Iowa, Nevada, Wisconsin, Missouri, Colorado, Louisiana, Arkansas, Oklahoma, South Dakota, and Kansas.

One obvious answer to the problem of moving coal out of the PRB is additional rail capacity out of the PRB. The two incumbent railroads have announced plans to expand capacity along their existing lines, which should help. But in the long term, that will not be enough.

Another rail route out of the PRB, preferably using its own new line rather than burdening the current Joint Line, is needed in order to provide additional capacity,

¹2006 *Summer Assessment: Reliability of the Bulk Power System in North America*, North American Electric Reliability Council, May 2006, pages 5-6.

²Summer Energy Market Assessment 2006, Office of Enforcement, Federal Energy Regulatory Commission, May 18, 2006, slide 22.

redundancy in the event of future catastrophic failures like those which occurred last spring, and price competition. EEI supports the Dakota, Minnesota & Eastern (DM&E) railroad's plans to build such a line, including its application for loan assistance from the Federal Railroad Administration under the Railroad Rehabilitation and Improvement Financing (RRIF) program. Our expectation is that the DM&E will be operated in a pro-competitive manner, especially if it receives federal assistance.

ADDITIONAL COAL DELIVERY CHALLENGES

Rail delivery challenges are not only the result of capacity limitations or train delays coming from the PRB. Since passage of the Staggers Rail Act in 1980, the number of major railroads has dwindled from over forty to seven, with four of the major railroads moving over 90 percent of the nation's rail traffic. This massive consolidation has resulted in many coal shippers becoming "captive" to a single railroad. While there are two railroads that can pick up coal in the PRB, generally only one railroad or a short line railroad under its control can deliver the coal to the electric generating facility. Due to lack of competition at the delivery end of the coal movement, these movements generally become "captive" to a single railroad for the entire length of the movement from the PRB to the generator.

Under the Staggers Act, the Interstate Commerce Commission (now the Surface Transportation Board, or STB) was charged with ensuring that the railroads do not abuse their monopoly power over individual rail customers and individual rail movements. However, the STB has been largely ineffective in protecting captive rail customer interests. The result is that captive rail customers for years have been forced to pay higher rates, while receiving lower quality service. Our industry literally is paying more-often much more-for railroad transportation and getting less.

WHAT CONGRESS CAN DO TO ADDRESS COAL DELIVERY PROBLEMS

There are several steps that Congress can take to help improve rail service for coal-dependent electric utilities and other captive rail customers who ship critical freight products such as chemicals, forest and paper products, and agricultural goods.

First, Congress should continue to exercise appropriate oversight over the operation and regulation of the railroads, especially with regard to critical infrastructure and economic issues like electric reliability. This committee should be commended for responsibly exercising its oversight authority in a manner that complements FERC's examination of these issues in response to letters from the electric utility industry referenced earlier in this testimony.

Congress should clarify that the railroads have an obligation to serve and that the STB has both the authority and the responsibility to enforce this obligation. Congress could direct the STB to develop and enforce mandatory reliability standards for the railroads. EPAct 2005 imposes a similar requirement on the electric utility industry, which we fully and enthusiastically support. The concept of reliability standards for the nation's railroads was endorsed in a resolution approved by the National Association of Regulatory Utility Commissioners (NARUC) at its winter 2006 meeting. A copy of the NARUC resolution is attached.

Congress should enact the comprehensive STB reforms contained in S. 919, introduced by Senator Burns and cosponsored by Senators Thomas, Craig, Dorgan and Johnson of this committee, among others. The bill furthers the deregulatory goals of the Staggers Act by providing access to rail competition for more rail customers. The bill also requires the STB to revisit its failed process for protecting rail customers from monopoly rates and directs the STB to develop actual cost-based rates. Under current law, the STB keeps revising how it applies its "stand-alone cost" test, making it more difficult for a rate to be successfully challenged. EEI is participating in a legal action that seeks to correct this particular problem, but overall reform is needed going forward.

In addition, while the railroads were largely deregulated by Congress in 1980, the railroads also remain largely exempt from federal antitrust laws. These exemptions were granted by Congress when the railroads were tightly regulated. Given the concentration in the industry and the lack of effective restraint of railroad monopoly power by the STB, the railroad antitrust exemptions are no longer justified. Congress should remove all of the railroad industry's exemptions from antitrust law. Legislation already has been introduced in the House to achieve this goal, and we would support similar legislation if introduced in the Senate.

Finally, the railroads reportedly are seeking legislation to provide them with a 25 percent tax credit (ITC) for investments in railroad infrastructure. As indicated by today's hearing, some incentives for infrastructure investment may be warranted,

but only as part of a comprehensive solution to rail delivery problems. Consideration of a railroad tax credit could give Congress, for the first time in decades, an opportunity to address both the concerns of the major railroads and the legitimate concerns of rail customers in a manner that will result in a strengthened national rail system. To be effective, any railroad ITC must be focused and must be coupled with provisions that address the concerns of rail customers, including coal-dependent electric utilities. We can provide you with more specific proposals, which we would be happy to discuss with you.

While the nation's railroads do not fall directly within the jurisdiction of the Energy and Natural Resources Committee, the reliability issues as well as the impacts on natural gas supply raised in this hearing and other aspects of this debate clearly suggest that this Committee should be concerned about the reliability and cost of rail coal movements.

CONCLUSION

More than ever before, electric utilities that supply significant amounts of coal-fired generation depend heavily on the railroads for reliable and affordable long-distance shipments of coal. In the wake of recent coal delivery challenges, utilities will need to work even more closely with the railroads to ensure that an effective coal supply chain is maintained. Every day, Xcel Energy and other electric utilities must meet a strict obligation to serve our customers. Congress can help make the railroads more responsive to their customers, as well, through needed oversight and legislative reforms.

Thank you again to this Committee for allowing me the opportunity to testify today on this critical national issue.

[Note: The following attachments have been retained in committee files:]

1. EEI-APPA-NRECA joint letter to FERC (May 1, 2006)
2. NARUC resolution on rail rates and service quality (February 2006)

The CHAIRMAN. Thank you very much for your testimony. It has been excellent.

Now, we are going to proceed to the Honorable Robert Sahr, chairman of the South Dakota Public Utilities Commission, from Pierre, South Dakota. You are testifying today on much broader basis on behalf of the National Association of Regulatory Utility Commissioners.

Mr. SAHR. That is correct.

The CHAIRMAN. Thank you very much for appearing, Your Honor, and we look forward to hearing from you.

STATEMENT ROBERT K. SAHR, CHAIRMAN, SOUTH DAKOTA PUBLIC UTILITIES COMMISSION, PIERRE, SD, ON BEHALF OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Mr. SAHR. Thank you very much, Mr. Chairman and members of the committee. As you mentioned, I am here on behalf of the National Association of Regulatory Utility Commissioners.

My goal here today is to bring the perspective of consumers and ratepayers in my home State of South Dakota and across the entire country who are impacted by this coal shortage crisis and to make the case for serious change as part of our move toward smarter overall energy policy.

I would first like to highlight the short-term impact of the coal supply problems.

In 2005, coal plant operators experienced reduced coal deliveries under firm contract by an estimated 10 to 25 percent. Coal reserve levels at plants in the upper Midwest dropped below 10 days at times, as we heard earlier, where typically 30 days is considered prudent. This has required plant owners to back down electricity

production at these plants and has had at least three major negative effects.

First and foremost, it has had a horrific consumer impact. Instead of utilizing low-cost coal generation, plant operators have been forced to buy replacement electricity on the open market, typically from natural gas peaking units, oftentimes at a rate of five times the cost or more. This has impacted consumers of investor-owned companies, rural electric cooperatives, and municipal utilities. The Big Stone plant operators in South Dakota estimate 5 to 10 percent increase in electricity bills due solely to the coal supply shortages.

Second, this crisis is endangering our energy security. Dangerously low reserves make plants more vulnerable to weather, rail accident, terrorist attacks, and other disruptions. If some type of other similar threat existed, I would hope we would all support swift action to address the problem.

Third, the situation promotes poor energy policy. At a time when this country is focused on being more energy efficient and less dependent on unstable energy sources, it is a travesty that we are under-utilizing low-cost coal plants and skewing our energy mix towards more natural gas-generated electricity and I have heard this morning deliveries from countries like Venezuela and Indonesia.

I would now like to briefly address some long-term concerns.

We are entering an new era of energy development where we are wisely investing in our electricity infrastructure in a new generation such as coal and wind power projects. This investment is critical if we are to move to a smarter national energy policy. Our public utilities commission is currently reviewing an application for a new powerplant, the Big Stone II, to be located near Milbank, South Dakota. Our regional energy power providers are looking at sites in the upper Midwest, including South Dakota. Dramatically increasing rail shipping charges are adversely impacting the cost dynamics of existing and new coal plants. The Big Stone powerplant reports a 38 percent increase in 1 year. Basin Electric analysis shows rates 500 percent above railways' actual costs, and if this trend continues, it would have a \$7.7 million impact for just their South Dakota customers.

The energy sector is not alone, as we have heard similar concerns voiced by the ethanol, grain, and other industries. Unfortunately, this rail crisis is occurring at a time when we are seeing rural communities revitalized with ethanol plants and value-added ag projects that oftentimes rely heavily on rail shipments. We certainly do not want to see this project derailed by rail problems.

Some possible solutions.

Addressing this issue must be a national priority. It is too important for consumers, our energy security, and our economy to fail to take immediate action to solve the short-term and long-term problems. NARUC believes that this problem could be alleviated, first, through more effective regulatory leadership by the STB. The STB can do this by establishing reasonable rates on market-dominant rail traffic where rate challenges have been brought and by establishing programs to ensure that customer demand is adequately met by the railroads. We should also review the costs and the length of STB cases and the burden of proof for petitioners.

Legislative and regulatory reforms at the Federal level are also necessary to help ensure more reliable rail service, improve railroad operations and dedicated capacity improvements, more rail carrier options for shippers and more equitable rates for affected rail shippers. Congress should address and resolve these issues by enacting legislation which would empower the STB to develop and enforce quality of service standards, implement the more equitable rate-setting process, interpret the existing deregulation law to promote competition, ensure reasonable rates in a competitive market, and remove the remaining railroad industry exemptions from Federal antitrust laws. This legislation could create mandatory reliability standards for the Nation's railroad systems, enforced by the STB, along with rate reform.

Finally, we also need to promote competition in rail service such as the DM&E project in my home State of South Dakota, to foster lower rates and better service.

Thank you, Mr. Chairman, for inviting me to participate at this hearing to address one of the Nation's most pressing energy issues. I appreciate your attention and the attention of the committee members present here today. I will be happy to answer any questions.

[The prepared statement of Mr. Sahr follows:]

PREPARED STATEMENT OF ROBERT K. SAHR, CHAIRMAN, SOUTH DAKOTA PUBLIC UTILITIES COMMISSION, ON BEHALF OF THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Good morning Mr. Chairman and members of the committee, I am Robert K. Sahr, Chairman of the South Dakota Public Utilities Commission (PUC). I am testifying today on behalf of the National Association of Regulatory Utility Commissioners (NARUC) and the South Dakota PUC. I very much appreciate the opportunity to appear before you this morning.

NARUC is a quasi-governmental, non-profit organization founded in 1889. Its membership includes the State public utility commissions serving all States and territories. NARUC's mission is to serve the public interest by improving the quality and effectiveness of public utility regulation. NARUC's members regulate the retail rates and services of electric, gas, water, and telephone utilities. We are obligated under the laws of our respective States to ensure the establishment and maintenance of such utility services as may be required by the public convenience and necessity and to ensure that such services are provided under rates and subject to terms and conditions of service that are just, reasonable, and non-discriminatory.

I. OVERVIEW OF ISSUE

Today, I appear before you with the interests of tens of millions of electricity consumers and ratepayers in mind. Consumers who may not know that their rates will rise significantly or that their region's coal plants are distressingly close to "going black" if an interruption occurs due to weather, accident or attack.

At a time when we are looking to become more energy efficient and less reliant on instable sources of energy, it is a travesty that our nation's coal plants stand ready to generate low cost, reliable electricity but cannot due to supply issues. Instead, many of these plants have been forced to operate at less than full efficiency, leading to higher electricity costs and unnecessarily putting the energy security of our country at risk.

Today and into the future, coal is expected to fuel the majority of electric generation in the United States. However, we are currently facing a situation with the supply of America's most abundant fossil fuel that needs to be fully addressed. The problem is not with the availability and supply for purchase of the commodity from the mining operations. Instead, the issue concerns the reliable, efficient and economic transportation of the commodity to the consumers who have already purchased the coal at the mine mouth from coal fields, in the Powder River Basin (PRB) in Wyoming and Montana, in particular. In short, the consumers cannot get

reliable delivery service at reasonable rates from the nation's rail carriers to meet the electric generation needs of our economy.

II. RAIL CARRIER DEREGULATION

The nation's railroads are exempt from most provisions of the nation's antitrust laws. For most of the 20th century, the railroads of the nation were subject to extensive regulation by the Interstate Commerce Commission (ICC). Prior approval by the ICC was required for almost all railroad actions. Due to this extensive regulation, the railroads were granted exemptions from most provisions of the nation's antitrust laws. The Staggers Rail Act of 1980 deregulated competitive rail traffic and directed the ICC (now superseded by the Surface Transportation Board (STB or Board) of the Department of Transportation) to ensure that the railroads did not abuse their monopoly power over "captive" rail customers, particularly with respect to rates.

Today, more than 25 years after passage of the Staggers Rail Act, the major railroad industry participants have consolidated from more than 40 companies in 1980 to four major railroad companies that move over 90 percent of the nation's traffic. The consolidation of the rail industry has resulted in two major railroads serving the western United States, the Burlington Northern Santa Fe and the Union Pacific, and two major railroads serving the eastern United States, the CSX and the Norfolk Southern. No more than two major railroads transport coal from the coal suppliers in any of the nation's coal fields and generally only one major railroad and perhaps a short line railroad tied to that major railroad serves any of the nation's electric generating units. Thus, a majority of the coal used for electric generation is transported to electric utilities under non-competitive conditions, which often results in extremely high rates and poor service.

III. GAS VS. COAL-GENERATED ELECTRICITY

Recently, the nation has experienced record high prices for natural gas, which has dramatically increased the cost of both natural gas and electricity service to the millions of business and residential customers in this country. Currently, the fuel cost component of producing electricity at gas-fired power plants can be as much as five times higher than the fuel component of producing electricity at a coal-fired power plant. As a prudent business practice, one would expect that, given existing gas prices, electricity producers would be seeking to utilize existing coal-fired electric generation as much as possible in lieu of gas-fired generation in order to produce electricity more economically and to avoid upward pressure on natural gas prices.

Most coal-fired electric generating plants in the United States are not located at the mine mouth and, thus, are dependent on reliable rail delivery and sufficient capacity to carry coal supplies from the PRB in Montana and Wyoming, the Illinois Basin, the Appalachian region and other major coal regions to meet the nation's electricity needs. However, as explained, at best, only two railroad companies are available to ship coal out of any of these regions and many customers are captive to a single carrier at destination. Unfortunately, in the last year or so, electric generating facilities have experienced unreliable coal deliveries, particularly from the PRB.

A. Reduction of Coal Deliveries

At our February meeting in Washington, D.C., the members of NARUC focused a good deal of attention on the coal delivery problem. We found that utilities in many States, particularly those powered by PRB coal, had experienced in 2005, reduced coal deliveries under firm contracts by 10 to 25 percent, thereby dramatically reducing the amount of coal inventory available for current and future electricity production. We understand that many utilities expect similar short falls in 2006. These reduced coal shipments resulted in coal conservation programs, under which utilities reduced the operation of their coal plants to conserve their coal resources. These utilities were forced to substitute much higher priced gas-fired production or market purchases of gas-fired generation to make up the difference. The higher costs of substitute gas-fired electricity has resulted in significant rate increases to customers of rural electric cooperatives, public power authorities, and investor-owned utilities all across the country, totaling hundreds of millions and even billions of dollars, and have placed upward pressure on natural gas market prices.

IV. NARUC RESOLUTION

On the basis of these findings, NARUC adopted in February a resolution calling on Congress to enact legislation that will improve the oversight of the railroad industry by the STB and legislation that will remove the current railroad industry ex-

emptions from the nation's antitrust laws. In addition, the NARUC resolution calls on Congress to ensure that the STB has the necessary authority to oversee railroad service problems, as well as rate problems, to include the development of mandatory railroad reliability standards similar to those this committee included in the Energy Policy Act of 2005. As State public service commissioners, we recognize that the railroad industry provides essential services to the nation, is highly concentrated and should be subject to supervision by a federal agency as to reliability of service and rail capacity. A copy of our resolution is attached to this testimony.*

V. SOUTH DAKOTA: ONE STATE'S STORY

Back in my home state of South Dakota, we are seeing firsthand the effects of this coal supply crisis:

- Power plants operating at less than ideal capacity due to supply problems;
- Plant operators purchasing more expensive replacement power;
- Utilities paying more for electricity;
- Consumers ultimately bearing these higher costs;
- Adverse economic and social impacts of higher electricity prices; and
- Energy security and public safety of the region put at risk.

While these points illustrate a dire situation, the good news is that we can readily define the root of the problem (supply), and this gives us the opportunity to take the steps necessary to solve it.

Two major electric power producers in my region, the 460-megawatt Big Stone Power Plant near Milbank, South Dakota, and Laramie River Station in Wyoming with its three coal-based units, each with 550 megawatts, rely on coal delivered by rail from the PRB. These plants furnish electricity to a wide variety of utility sectors including investor-owned companies, rural electric cooperatives and municipal utilities. Representatives of these energy suppliers recently participated in a forum hosted by the South Dakota Public Utilities Commission to describe the scope of this problem. At this forum, my fellow commissioners and I heard, in staggering detail, how these vital electric producers servicing our region have been hit hard by poor rail service, which has substantially hindered efficient plant operations and produced dramatic and unexpected price increases. This problem is producing a ripple effect in our local and regional economies that we are just beginning to experience. It will grow wider and affect more people and businesses if it remains unchanged.

A. Depletion of Coal Stockpiles

Because the power plants are not receiving their demand for coal for normal operations, they have been forced to dip into their coal stockpiles. The stockpiles have grown perilously sparse as the railroads' performance has continued to lag and the railroads have failed to replenish the stockpiles with new coal deliveries. In March, the Big Stone Power Plant stockpile dwindled to a 10-day supply while the plant waited for their rail service provider to deliver the needed coal. Some of the coal at the bottom of the stockpile has been stored on open ground, exposed to the elements for 20 years in some cases, and can only be used as a last resort. According to Basin Electric Power Cooperative, a co-owner of Laramie River Station, using this coal also brings other issues of concern. The coal at the bottom of the Laramie River Station stockpile has significantly reduced BTU value and includes rocks that are being run through the plant's turbines. Plant staff members are now cleaning the pulverizers on a daily basis, where in normal operation it is done every two to three weeks.

B. Security Concerns

Besides the problems I have just described, the depletion of this stand-by coal supply creates significant operational concerns. Given the critical shortage of coal being experienced at these plants, and the fact that these are large plants designed to meet the baseload needs of the public, any weather, operational, rail accident, terrorism, or other incident could further compromise the ability of these electricity providers to meet the public demand, the effect of which could be crippling for our state and region. Just imagine the havoc that would be caused by the loss of one of these coal plants that supplies such an important source of electricity for the upper Midwest.

C. Conservation Measures

Even if future coal shipments match daily burn requirements, replenishing the coal reserves at the plants is taking an extended period of time. As a result, these

*The resolution has been retained in committee files.

electricity providers have had to develop or implement conservation measures to preserve and rebuild their diminished stockpiles.

In early April, due to the carriers' continuing service failures, the Big Stone Power Plant was forced to reduce its generation output to 45 percent of normal levels. When the stockpile is replenished, it is anticipated that plant output levels will only be allowed to increase to approximately 85 percent of the historic levels experienced in 2004-2005 and still maintain the stockpile.

D. Market-Purchased Electricity

Curtailments such as this force the plant to purchase replacement energy on the open market at a significant cost to customers. For example, the Big Stone plant co-owners have explained they are purchasing power on the open market at \$20 a megawatt hour higher than they can produce the power. The co-owners estimate their retail customers are paying an additional \$3 million per month for this more expensive replacement electricity. Because the retail utility customers have rate adjustment clauses, these higher costs are being passed on to their residential, business and industrial customers who are seeing electric bills 5 to 10 percent higher than normal as a result. As we enter the summer season—a time of peak energy use—our concern for our rate payers is great as the open market cost of electricity is expected to climb.

F. Captive Shipper Costs

Replacement electricity is not the only additional cost power producers are managing. Besides receiving poor service, as captive shippers, these companies are facing exorbitant rail fees. Otter Tail Power Company, a co-owner of the Big Stone plant, reported a 38 percent increase in freight rates at their Big Stone Plant in just one year. An analysis by Basin showed they are paying rates approaching and above 500 percent of the railway's actual costs to transport coal to their Laramie River Station. Their rates have been more than doubled by their railroad service provider. If Basin's rail transportation costs continue to rise as projected, it will have a \$7.7 million annual impact on their South Dakota rate payers.

The co-owners of both plants, Big Stone and Laramie River Station, have filed rate cases with the STB, a process that is both lengthy and costly. Otter Tail Power Company filed its case in 2002. Nearly four years later, it was dismissed by the STB. Otter Tail is appealing the decision, which is expected to take 18 months. The Laramie River Station rate case was filed in October 2004. Basin Electric Power Cooperative reports that \$5 million has been spent on the case to-date and that the STB put the case on hold in February. The STB decision is now expected in 2007, a delay that will cost the company \$500,000 to \$1 million. In the meantime, the plant will continue to pay the higher rail transportation rates imposed by their carrier during the continuing pendency of their rate cases.

South Dakota is not alone in this situation. It is a crisis that has been building over the past several years that is reaching critical mass. Something must be done to put more railcars on the tracks to deliver the needed coal supplies to our power producers in a reasonable timeframe and at a reasonable cost. Rate payers throughout the nation deserve a reliable supply of energy and should not be held in jeopardy because of a monopoly or duopoly situation that has been allowed to be created in the rail shipment industry. They also should not be placed in a situation of incurring higher energy costs by being forced to use alternate fuel supplies or more expensive purchased power to meet demand.

G. Safety and Economic Threats

The threat this coal shortage poses to health, safety and economic viability is sobering. Until the shortage is resolved, there is no assurance for consumers that they will be able to affordably keep cool in the hot summers and warm during the frigid winters. Those most vulnerable to heat and cold are many times those who are on limited incomes. Higher energy rates put them at greater risk of not being able to pay their bills. They should not have to choose between keeping warm, cool or if they will eat.

Further, this shortage threatens economic development throughout my state and region as well. When a power plant goes into curtailment mode, their retail customers may need to impose drastic conservation measures. Industrial customers, for example, may not be able to meet contractual agreements and may be forced to pay penalties to their customers. In addition, when these plants purchase electricity, such as that generated by natural gas, on the open market, it drives up the cost of natural gas for all purchasers of that product.

H. Stopgap Efforts

The statements I have made thus far paint a dark picture. Therefore, I want to impress upon the committee that the power producers are taking steps within their control to alleviate the situation, but these adjustments are proving to be temporary fixes only. For example, the Big Stone plant arranged to commit to receiving trains of Montana coal. While this effort has allowed the plant to build back its stockpile to a normal 30-day level, it has come at a cost. The Montana coal has higher sulfur content than PRB coal. The additional sulfur dioxide allowances that are required with the fuel make this option prohibitively expensive for the plant. In addition, Big Stone has fixed quantity contracts in place with two PRB mines and taking the Montana coal put the Big Stone co-owners at risk for not meeting contractual obligations. They are required to pay for the contracted tons of coal during the year, whether they are delivered or not. The plant also negotiated with their rail shipper to provide a temporary, third train set to deliver coal from the PRB. This, too, helped to build up the stockpile.

IV. CONCLUSION

In conclusion, NARUC believes that this problem could be alleviated, first through more effective regulatory leadership by the STB. The STB can do this by establishing reasonable rates on market dominant rail traffic where rate challenges have been brought and by establishing programs to ensure that customer demand is adequately met by the railroads.

Legislative and regulatory reform at the federal level are also necessary to help ensure more reliable rail service, improved railroad operations and dedicated capacity improvements, more rail carrier options for shippers, and more equitable rates for affected rail shippers. Congress should address and resolve these issues by enacting legislation which would empower the STB to develop and enforce quality of service standards, implement a more equitable rate-setting process, interpret the existing deregulation law to promote competition, ensure reasonable rates in a competitive market, and remove the remaining railroad industry exemptions from the federal antitrust laws. This legislation could create mandatory reliability standards for the nation's railroad system, enforced by the STB, along with rate reform. This would help ensure just and reasonable rates, particularly in the absence of competition, since this nation is no less dependent on a reliable and reasonably-priced rail system than we are on a reliable and reasonably-priced electric transmission system.

Because of the critical importance of these coal plants to our consumers, economy and energy security, we must act quickly.

Thank you, Mr. Chairman, for inviting me to participate in this hearing to address one of this nation's most pressing energy issues. I greatly appreciate your attention, Mr. Chairman, and the attention of the committee members present today. I will be happy to answer any questions you may have.

The CHAIRMAN. Thanks very much.

I note that while a couple of Senators have left to vote, we have the presence of a couple of Senators on this side who will be here for part of the hearing. Senator Salazar, thank you for coming. I am glad to have you with Senator Mary Landrieu.

I am going to proceed now the way we have been without questions and get the last witness, if you do not mind. He is a very talkative guy. So I do not know. Maybe he will talk so long, you will not get a chance to ask questions. But I will try to control him.

All right. We are going to now hear from the president of the Association of American Railroads. I hope you can make sense out of the mess we are hearing.

STATEMENT OF EDWARD R. HAMBERGER, PRESIDENT AND CEO, ASSOCIATION OF AMERICAN RAILROADS

Mr. HAMBERGER. I am going to try, Senator. I thank you for the opportunity to be here on behalf of our members to respond to concerns about our members' ability to move coal to supply the Nation's electricity needs.

Senator Burns indicated at the beginning that we are blessed to be called the Saudi Arabia of coal. I submit to you that we are further blessed to have the world's best freight rail network to move that coal. And with all due respect to the gentleman to my right, Commissioner Sahr, I submit to you that we are in anything but a crisis situation. Our ability to move coal is not broken. In fact, in 2005, U.S. freight railroads moved more coal than ever before, and we are on pace to significantly increase that record in 2006. Through the week ending May 13, we are up 3.3 percent of coal tonnage moved both western and eastern. Thanks to railroads, U.S. coal producers and consumers have access to the most comprehensive and efficient coal transportation system in the world.

Having said that, I am very pleased that the hearing is being held today and not last May. Last May, our ability to ensure reliability on coal shipments was certainly being challenged. That happened for several major factors. First and foremost, in May of last year, a heavy rainfall in Wyoming, combined with an accumulation of coal dust on the roadbed and a spring snowstorm put moisture into the track structure, causing instability and resulting in two derailments on a heavily used Powder River Basin rail line. The derailments and the subsequent repairs disrupted coal shipments out of the PRB for months afterward.

Later in the year, as Senator Landrieu knows, hurricanes Katrina and Rita created backups and congestion that affected the entire rail network. For example, much of Midwestern and Northern Plains grain had to move by rail rather than by barge down the Mississippi.

Finally, in October, a deluge dumped a foot of rain in Kansas City, disrupting rail service on several major coal-carrying routes for about 2 weeks.

Second, demand for rail transportation in general was much higher in 2005 than in previous years, creating capacity constraints on important parts of the U.S. rail network. It is not just the Powder River Basin lines that are important here. It is the entire rail network, as these coal trains move 1,500-2,000 miles across country.

Third—and this is a key point, Mr. Chairman—this entire supply chain is not just railroads. It is the production capability of the mines. It is our ability to move it. It is barge ability to move it, and it is what happens at the utility end, at the delivery end. As the EIA testimony indicates, between 1980 and 2000, utilities consciously reduced their inventories, their stockpiles by two-thirds, thereby cutting the zone of what they could rely on. Some would argue that they cut that stockpile much too fast, much too far.

Fourth, the system was exacerbated by a dramatic increase in the price of natural gas, leading to an unprecedented increase in demand for coal-fired electricity generation. Now, this was a reversal of what had been happening. As you can see by the chart, during the previous 5 years, electric utilities brought nearly 200,000 megawatts of new natural gas generation capacity on line compared with almost null, about 1,200 new megawatts of coal generating capacity, and this continued the trend of the previous years. Utilities had shown their preference for natural gas and that that

was the fuel of choice, and railroads and, undoubtedly, the mining companies as well developed their capital plans accordingly.

I was delighted to hear my fellow witness, Mr. McLennan, in his testimony say that use of natural gas to create electricity is not ideal. And, indeed, Mr. Sahr said the same thing, a travesty to use natural gas for electricity generation.

Unfortunately, between the years 1990 and 2005, the percentage of electricity brought to you by coal fell from 52 to 49 percent, while the percentage brought to you by natural gas generation rose from 12 percent to 19 percent. I welcome these gentleman to the course. I wish they had been there earlier.

In fact, in years 2002, 2003, and 2004, demand for coal movement fell. It was lower in 2002, 2003, and 2004 than it was in 2001. We are delighted that it is now increasing as much as it is.

We worked closely, notwithstanding the challenges of last year, with our customers. We held frequent conference calls internally, as well as with the mining companies and the utilities, often at the CEO level, to identify supply chain issues and to identify areas where improvement could be made. We recognize that not every customer received the quantity of coal they wanted or as quickly as desired, but the fact remains that in 2005, despite the adversities they faced, railroads moved millions of tons more coal than any previous year, 804 million tons in total, while coal production in the Powder River Basin itself reached 427 million tons. That was last year.

This is this year. We are 5 percent higher, as you heard, in coal stockpiles, and as we head into the summer cooling season, I am much more optimistic than I could have been a year ago.

But again, this is not just my opinion. Last week, the Federal Energy Regulatory Commission's Office of Enforcement reported, "Coal stockpiles are well above last year's level and are likely to continue building."

The National Electric Reliability Council, a utility sector organization, itself said, "Coal delivery limitations do not appear to present a reliability problem this summer."

Last Friday, Platt's Coal Trader, a coal industry publication, reported, "Utilities have good stockpile levels of around 30 days." They also reported that many utilities have dropped out of the spot coal market both because their inventories are strong and because natural gas prices now have fallen back to about \$6 per mcf. Now, it will take some time to fully rebuild our inventories, but we believe the immediate problem is behind us.

Still, it is important to recognize that the rail system is a 140,000 mile outdoor assembly line. Just 2 days ago, flooding in the Powder River Basin caused the cancellation of 12 train slots on Tuesday. That was as a result of both some switches that were washed out, as well as mine capacity. Today operations are back to full force.

But Senator Thomas rightly asked, what can be done going forward? We are working with our customers, improving communications. We are looking for productivity enhancements, improving fluidity, hiring more workers, and increased investment. As the gentleman from MEAG said, it is investment, capacity, investment that counts. In my testimony, I recount many examples of where

our members are investing particularly in the coal network. This year alone, we will record \$8.3 billion in capital investments, far more than any year in history.

But we are not just relying on that. We are looking to the future, and I would like to submit, with your permission, Mr. Chairman, a report from Andrew Cebula,* vice president, planning and engineering for CANAC, a consulting organization with which the mining companies and the railroads have worked in the past for the Powder River Basin. They did a study in 1999 to say how can we get to 350 million tons coming out the southern PRB. They had specific recommendations for investments both at the minemouth and for the railroads. We have made those investments.

We are now commissioning another study that started last year. It should be completed sometime in the next couple of weeks that will hopefully lay the road map to get to 490 million tons by 2012. As you mentioned, Senator, the railroads are already investing hundreds of millions of dollars in the Powder River Basin.

Finally, claims that coal rates are excessive unfortunately do not withstand scrutiny. On average, rates have dropped 32 percent for moving coal by rail on a current dollar basis since 1981. By contrast, average electricity rates rose 38 percent over the same period. The fact is railroads are helping to restrain electric rates, not adding to their increase. Even with rate adjustments in recent years as legacy contracts expire, railroad coal rates in 2005 were 25 percent lower than in 1990.

Now, it is important, as I wrap up, to remember that many forces make up the electricity by coal supply chain and they are interrelated: coal production, coal transportation, natural gas production, utility management of inventories, transmission line capacity, waterway capacity, and of course, rail capacity. We are proud of the role we play and look forward to continuing to cooperate with our supply chain partners to provide the electricity our economy demands.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Hamberger follows:]

PREPARED STATEMENT OF EDWARD R. HAMBERGER, PRESIDENT AND CEO,
ASSOCIATION OF AMERICAN RAILROADS

On behalf of the members of the Association of American Railroads (AAR), thank you for the opportunity to discuss issues related to coal supply. AAR members account for the vast majority of freight railroad mileage, employees, and revenue in Canada, Mexico, and the United States, and, therefore, are directly involved in aspects of the coal supply chain.

Members of this committee should know, first and foremost, that contrary to what some rail critics wrongly claim, railroads' coal delivery abilities are anything but broken. In 2005, U.S. railroads moved more coal than ever before, and are on pace to significantly exceed their 2005 coal movements in 2006.

Railroads also know that efficient coal transportation is critical to our nation's economic well being and energy security, and they are committed to working with coal suppliers and consumers to ensure continued safe, cost-effective, and reliable service, as they currently do.

The more than 550 freight railroads operating in the United States today are a tremendous national asset, moving more freight, more efficiently, and at lower rates than any other freight rail system in the world. They account for more than 40 percent of our nation's intercity freight ton-miles and deliver some two-thirds of our coal.

*The report can be found in the appendix.

The global superiority of U.S. railroads is a direct result of a regulatory system, embodied in the Staggers Rail Act of 1980, that relies on market-based competition to establish nearly all rate and service standards. This limited regulation has allowed railroads to improve their financial performance from anemic levels prior to Staggers to more moderate levels today, which in turn has allowed them to plow back hundreds of billions of dollars into improving the quality and performance of their infrastructure and equipment—to the immense benefit of their coal and other customers, and our nation at large.

Looking ahead, our economic prosperity and our ability to compete successfully in the global marketplace—and our ability to utilize our abundant domestic coal supplies—will depend critically on the continued viability and effectiveness of our freight railroads. But to be viable and effective, especially in the face of projected huge increases in freight transportation demand over the next 20 years, railroads must be able to both maintain their existing infrastructure and equipment and build the substantial new capacity required to handle the additional traffic they will be called upon to haul.

OVERVIEW OF COAL

The ready availability of domestic coal as a primary energy source has been critical to U.S. economic development. U.S. coal production and consumption have been trending higher for decades, and in 2005 totaled more than 1.1 billion tons—higher than ever before and more than any country in the world except China.

The vast majority of coal in the United States is used to generate electricity, with smaller amounts used in industrial applications like fueling cement kilns or producing coke. Coal accounted for 50 percent of U.S. electricity generation in 2005, far more than any other fuel.

The amount of electricity generated by coal in the United States rose from 1.6 billion megawatthours in 1990 to 2.0 billion megawatthours in 2005—an increase of 420 million, or 26 percent. But because overall U.S. electricity generation rose 33 percent during this period, coal's share of total generation actually fell, from 52.5 percent in 1990 to 49.9 percent in 2005.

By contrast, natural gas's share of U.S. electricity generation rose from 12.6 percent in 1990 to 19.0 percent in 2005. In fact, during the 1990s and into the first half of this decade, virtually no new coal-fired electricity generation capacity and no new nuclear facilities were built, but huge amounts of gas-fired capacity were added. According to data from the U.S. Department of Energy's Electricity Information Administration (ETA), net summer capacity for natural gas-fired electricity generation rose 211 gigawatts from 1994 to 2004, while net summer capacity for all other fuel sources combined actually fell three gigawatts.

Natural gas was the fuel of choice for new capacity for several reasons. Gas plants could be constructed relatively quickly and enjoyed an easier permitting process, and thus were less expensive to build. They were also considered to be “environmentally friendly.” Perhaps most importantly, though, it was assumed that natural gas would remain cheap and plentiful.

This, of course, did not happen. Over the past few years, the price of natural gas to utilities has skyrocketed, making gas-fired generation less competitive and sparking increased demand for electricity generated from other fuels, including steam coal. In contrast to the delivered price of natural gas, the delivered price of coal to utilities has remained basically flat, and on a per-Btu basis is far below the comparable figure for natural gas. In addition, demand for metallurgical coal rose sharply because of a boom in steelmaking worldwide.

This unexpectedly strong increase in the demand for coal, which occurred at the same time that demand for rail transportation overall was rising sharply (discussed further below), has in some cases exceeded the capability of coal producers to supply the coal and coal transporters to haul it. That's not surprising, especially since utilities, by their actions, had long been disfavoring coal in favor of natural gas, and neither coal suppliers nor coal transporters have unlimited spare capacity on hand “just in case.”

Nevertheless, in recent months, freight railroads have come under frequent attack for their alleged role in forcing coal-fired power plants to reduce their coal stockpiles to dangerously low levels. In a few cases, power plants have allegedly had to curtail power production because of the unavailability of rail-delivered coal, and then had to purchase more expensive electricity on the spot market or generate electricity from more expensive fuels like natural gas.

Railroads are in constant communication with their coal customers, and make every effort to ensure adequate coal supplies. Despite railroads' best efforts, there may be times when a particular plant has temporary acute shortages. This is an

extremely rare occurrence. Even today, when railroads are hauling more traffic (including coal) than any time in their history and are facing capacity constraints on important corridors and at critical locations on the rail network, the overwhelming majority of coal customers are receiving adequate coal supplies.

Moreover, coal-fired power plants have been reducing their coal stockpiles since the early 1980s. A typical electric utility held nearly two months of full-load burn in the early 1980s; by the late 1990s, this had fallen to near one month.¹ According to EIA data, coal stocks at electric power producers as a percentage of coal consumption fell from more than 30 percent in 1980 to 10 percent by 2000. The decision to reduce stockpiles was part of a deliberate utility effort to shift to just-in-time inventory practices to limit capital tied up in fuel stocks.² With inventory reduced to this degree, utilities eliminated a traditional buffer to withstand supply disruptions (like the May 2005 PRB derailments noted below).

That's one of the reasons I recently asked the Federal Energy Regulatory Commission (FERC) to investigate the entire supply chain—including utility management of coal inventories—that produces, transports, and receives the coal used to generate electricity at utility plants across the nation.

The rail transportation of coal was negatively affected in 2005 by especially serious weather-related problems in the western United States, which has become an increasingly important source of coal. In May 2005, two coal trains derailed on the heavily-used Southern Powder River Basin Joint Line (Joint Line) in Wyoming. The line is jointly owned and used by BNSF Railway and Union Pacific. Subsequent investigation found that the derailments were caused by a weakening of the roadbed due to the combination of accumulated coal dust and significant rain and snow over a short time period. The derailments and subsequent comprehensive repair program disrupted the flow of trains to and from the SPRB to some degree for much of the rest of the year, and removal and cleaning of ballast will continue until the fall of 2006.

In early October, a severe thunderstorm dumped approximately 12 inches of rain in the Topeka, Kansas region, created runoff that caused bridge damage and extensive washouts on several major coal-carrying rail routes, impeding rail traffic nearly all of October until the last bridge was replaced.

Railroads recognize that these types of disruptions exert a substantial toll on rail customers as well as on the railroads themselves, which is why railroads work exceedingly hard to return their operations to normal service as quickly as possible. In 2005 and into this year, not every coal consumer has been able to obtain all the coal it has wanted as quickly as desired. This consequence of weather-related outages and capacity constraints throughout the coal production and logistical chain will be temporary, as long as policymakers do not overreact with inappropriate policy prescriptions.

The more important point is that, despite the weather- and capacity-related problems noted above, as well as periodic production disruptions at mines, railroads moved a phenomenal amount of coal in 2005, and 2006 is well on its way to exceeding 2005's record totals.

While the mines and railroads will produce and move substantially more coal in 2006 than ever before, it may be less than what some receivers want to fully rebuild inventories. But there should be no shortfalls that threaten electricity reliability. The National Electric Reliability Council (NERC) seems to agree. NERC is the umbrella organization for eight regional reliability councils whose members come from all segments of the electric power industry and account for nearly all electricity in this country. NERC's mission is to ensure that the bulk power system in North America is reliable, adequate, and secure.

A week ago, NERC released its "2006 Summer Assessment" that examines the reliability of the North American bulk power system for the upcoming summer season. In reference to the nation as a whole and after noting the flooding and derailments last year, NERC noted that while it will be monitoring the supply of PRB coal, "Coal delivery limitations do not appear to present a reliability problem for this summer."

NERC made similar assessments in reference to individual regions:

- Electric Reliability Council of Texas (ERCOT): "It is also anticipated that no significant problems with coal supply deliveries impacting reliability in ERCOT are expected this summer."

¹ Stan Kaplan, et. al., "Coal and gas prices: planning for an uncertain fuel future," *Power Engineering*, January 2003, p. 20. At the time of this article, Mr. Kaplan was a branch chief in the electric division of EIA.

² Richard Bonskowski, *The U.S. Coal Industry in the 1990's: Low Prices and Record Production*, Energy Information Administration, September 1999.

- Florida Reliability Coordinating Council (FRCC): “. . . the PRB coal delivery issue is expected to be of minimal impact to regional capacity.”
- Midwest Reliability Organization (MRO—covers north central U.S.): “The MRO has surveyed the Powder River Basin coal delivery situation in the region and the results show that no direct impacts to the reliability of meeting peak electrical demand.”
- ReliabilityFirst Corporation (RFC—covers northern Illinois, the Mid-Atlantic, and parts of the Northeast): “Deliveries of PRB coal are no longer limited due to last May’s derailment and subsequent track maintenance. Significant coal delivery problems are not expected for RFC members this summer.”
- Southeastern Electric Reliability Council (SERC): “The majority of SERC members do not rely on PRB coal. SERC members that do receive PRB coal have experienced some reduced deliveries, but are presently receiving sufficient PRB coal.”
- Southwest Power Pool (SPP): “The coal supply issue due to the PRB railroad issue is not considered to be a high-risk issue by SPP members regarding supply adequacy.”
- Western Electricity Coordinating Council (WECC): “A fuel supply survey taken last fall indicated that only a handful of coal-fired plants have been directly affected by last year’s coal delivery interruptions from the Powder River Basin coal fields. The operators of those plants reported experiencing supply interruptions during the summer and had reported that winter deliveries had returned to normal.”

NERC’s reliability appraisal will probably not stop rail critics from continuing to warn about the possibility of “rolling blackouts” and other untoward events this summer due to rail delivery issues. These misrepresentations serve no useful purpose.

In addition, last week FERC’s Office of Enforcement presented its summer energy market assessment for 2006. The assessment noted that “coal stockpiles . . . are well above last year’s levels. . . . While worth watching, staff’s view is that coal stockpiles are likely to continue building.” FERC’s assessment notes a few areas where inadequate investment by the electric power sector could cause problems, saying it is “concerned about key load pockets where investment in needed infrastructure has not kept up with needs.”

While traffic out of the PRB is back up to normal volumes, the preventive cleaning of the ballast beneath the rails is still underway. Going forward, one of the root causes of the weather-related problems of 2005—coal dust “blow off”—must be aggressively addressed. Just as with other coal delivery chain issues, the mines, utilities, and railroads must collectively identify, agree upon, and implement the best method to combat “blow off” so that the premature wear of rail infrastructure in the PRB can be eliminated.

OUTLOOK FOR COAL

U.S. coal production and consumption will almost certainly continue to grow. In its *Annual Energy Outlook 2006*, released in December 2005, the EIA projects that U.S. coal production in 2015 will total 1.27 billion tons, a 140-million ton increase (12 percent) over the 1.13 billion produced in 2005. The EIA expects U.S. coal consumption to increase from 1.13 billion tons in 2005 to 1.28 billion tons in 2015, a 147-million ton increase. DOE’s National Energy Technology Laboratory reports that 140 coal-fired generating plants in 41 states representing 85 gigawatts have been announced or are in development.³ If ultimately built, this new generation would increase annual U.S. coal requirements by some 300 million tons.

Coal’s future is not assured, however, mainly because it faces major environmental challenges. Among many, coal is perceived to be a dirty fuel whose emissions (of carbon dioxide, particulates, sulfur dioxide, nitrogen oxides, and mercury) pollute the environment and harm public health.

As members of this committee know, the view that coal is a “dirty” fuel has become increasingly out of date. Coal-based electricity generation is far cleaner today than it used to be. From 1980 through 2002, coal-based power generation rose 66 percent, but emissions of sulfur dioxide (SO₂) from coal fell 39 percent in absolute terms and 64 percent on a per unit of generation basis, while nitrogen oxide emissions (NO_x) fell 33 percent on an absolute basis and 60 percent per unit of generation.

³ Press release, Peabody Energy, April 18, 2006. Most recently, TXU Corporation, a major Texas-based energy company, announced plans to invest up to \$10 billion on 11 new coal-fired generation units.

Moreover, coal's environmental performance will continue to improve through the use of "clean-coal" technologies. Coal-based utilities, the DOE, and others are investing billions of dollars each year on R&D projects directed toward improving the environmental performance of coal-based electricity generation.

For example, DOE is engaged in showcasing promising technology to establish the technical and economical feasibility of zero-emissions systems with hydrogen co-production while completely eliminating the environmental concerns associated with coal use. The ultimate goal of this project—dubbed FutureGen—and similar research efforts is to develop new commercially-viable coal-fired power plants that would remove 95-99 percent of SO₂, NO_x, particulate matter, and mercury; achieve 50-60 percent thermal efficiency, a vast improvement over current levels; and capture and sequester carbon dioxide on a massive scale.

Clean-coal efforts got a major boost in the Energy Policy Act of 2005, which included several provisions that authorized funding and investment tax credits for clean-coal projects, including advanced coal gasification technologies, pulverized coal technologies, generating equipment, and air pollution control equipment.

Today, the most highly-anticipated clean-coal systems are "integrated coal gasification combined cycle" (IGCC) systems, in which crushed coal is mixed with steam and oxygen under high temperature and pressure to produce a gaseous mixture that is burned in a high efficiency gas turbine to produce electricity. The exhaust heat from the gas turbine is recovered to produce steam to power steam turbines, greatly improving thermal efficiency. The main advantage of IGCC, though, is its ability to remove carbon and other impurities from coal before the coal is burned, rather than trying to filter the impurities out of post-combustion exhaust. Today, numerous IGCC projects are being considered at sites across the country.

Because coal offers such extraordinary promise as a source of fuel for a range of applications, it is critical that policymakers encourage coal use, support continued clean coal research and development, and refrain from restricting the ability of coal producers, consumers, or transporters from playing their respective roles in the coal production and logistics chain. The use of coal for these purposes frees up natural gas to be used in other applications, such as chemical production and other high-end manufacturing applications for which there is often no practical substitute.

THE RAIL TRANSPORTATION OF COAL

Because coal is consumed in large quantities throughout much of the country, while most production is focused in a relatively small number of states, an efficient coal transportation system is a necessity. Thanks to railroads (and other transportation modes), coal transportation in the United States has become so sophisticated that regionally-defined markets need no longer exist. Rather, coal can be transported essentially from wherever it is mined to wherever consumers want to burn it.

All major transportation modes except airlines carry large amounts of coal. According to the EIA, 64 percent of U.S. coal shipments were delivered to their final domestic destinations by rail in 2004, followed by truck (12 percent); the aggregate of conveyor belts, slurry pipelines, and tram-ways (12 percent); and water (9 percent, of which 8 percentage points were inland waterways and the remainder tide-water or the Great Lakes). The rail share has been trending higher, in large part a reflection of the growth in PRB coal that often moves by rail. PRB coal production more than doubled from 200 million tons in 1990 to an estimated 429 million tons in 2005.

Coal is by far the highest-volume single commodity carried by rail, and railroads are moving more coal today than at any time during their history. In 2005, Class I carriers originated 7.20 million carloads of coal (23 percent of total carloads), equal to 804 million tons (42 percent of total tonnage). Coal has long been a major source of rail revenue as well. Class I gross revenue from coal in 2005 was \$9.4 billion, or 20 percent of total gross revenue. Coal is also carried by dozens of non-Class I railroads.

Rail coal traffic has been trending upward at a faster rate than coal production. From 1981 (the first full year following Staggers) through 2004, rail ton-miles of coal nearly tripled, whereas U.S. coal production rose 38 percent. Rail coal traffic increases to utilities are continuing today. Railroads helped move a record 427 million tons of PRB coal in 2005 and could see a 10 percent increase in 2006. Eastern railroads too are expecting to set new coal-hauling records in 2006. In 2005, for example, Norfolk Southern (NS) experienced a 6.3 percent increase in coal volume to utilities, even though electricity generation in NS's service region rose just 3.7 percent. In the first quarter of 2006, NS experienced a 7 percent increase in utility coal volume.

Coal hauling on railroads has become much more sophisticated than it used to be. Most coal on railroads moves in highly productive unit trains, which often operate around the clock, use dedicated equipment, generally follow direct shipping routes, and have lower costs per unit of coal shipped than non-unit train shipments.

In addition, technological advances have led to more powerful and fuel efficient locomotives; distributed power operating practices that allow more coal to move in each train with greater reliability and safety; improved signaling systems; stronger, more durable track; lighter, higher-capacity coal cars (in 2005 the average coal car carried 111.7 tons, up 14 percent from the 98.2 tons in 1990); and higher capacity, faster coal loading and unloading systems, to name a few.

Improvements in train operations—including distributed power, more accurate short-term demand forecasting, and more efficient dispatching and routing—have also helped railroads meet the needs of their coal customers as efficiently and cost effectively as possible.

Railroad Coal Rates

Since it recognizes both distance and weight, revenue per ton-mile (RPTM) is a useful surrogate for railroad rates. In 2004 (the most recent year for which RPTM data are available), average RPTM for coal was 1.59 cents, by far the lowest such figure among major rail commodities. In inflation-adjusted terms, 2004 RPTM for coal was 63 percent lower than in 1981 and 28 percent lower than in 1994. Moreover, the general pattern of significant reductions in coal RPTM applies to coal movements in railroad-owned cars, for movements in non-railroad-owned cars, and for movements of different lengths.

The average decline in railroad coal rates from 1981 to 2004 (down 32 percent in nominal dollars, down 63 percent in inflation-adjusted terms) is in sharp contrast to average U.S. electricity rates, which rose 38 percent from 1981 to 2004 in nominal terms and fell 25 percent in inflation-adjusted terms.

Numerous studies have found that, historically, rail coal rates have fallen. For example:

- A September 2004 study by the EIA found that rail rates for coal fell nearly 42 percent on a revenue per ton basis from 1984 to 2001, and that railroad revenue per ton-mile for coal fell 60 percent on an inflation-adjusted basis from 1979-2001—compared with a decline for barges of 38 percent and an increase for trucks of 73 percent. An October 2000 EIA study came to similar conclusions.
- A June 2002 study by the U.S. General Accounting Office (GAO) found that from 1997 through 2000, “In virtually every market we analyzed—both in the East (Appalachia) and in the West (Powder River Basin)—rates decreased.” The June 2002 study was a follow-up to a similar April 1999 GAO study, which found that “In general, real rail rates for coal shipments have fallen since 1990. This was true for overall rates and for the specific long-, medium- and short-distance transportation corridors/ markets.”
- A March 2001 econometric analysis found that after controlling for changes in commodity mix, shippers were receiving some \$27.8 billion per year (in 1996 dollars—equivalent to some \$33 billion in today’s dollars) in rate reductions as a result of changes that took place in the rail industry between 1982 and 1996. Of the \$27.8 billion in annual savings, \$8.6 billion (equivalent to \$10 billion in today’s dollars) accrued to coal shippers.
- In a December 2000 report, the Surface Transportation Board (STB) found that “shippers would have paid an additional \$31.7 billion for rail service in 1999 if revenue per ton-mile had remained equal to its 1984 inflation-adjusted level.” Given the volume of coal moved by rail, coal shippers undoubtedly accounted for much of these savings.
- A 1999 study by Resource Data International (RDI) found that the decline in the delivered price of coal to coal-fired power plants from 1989-1997 was virtually identical for plants served by only one railroad (30 percent) as for plants served by more than one railroad (31 percent). RDI noted that “coal price data do not suggest that single-rail served shippers are disadvantaged relative to multiple-rail served shippers.” RDI also found that 7 of the top 10 lowest-cost U.S. coal-fired plants were served by just one railroad—suggesting that factors other than delivery mode have a greater influence on the competitiveness of power plants.

Other measurements of rail rates point to the cost-effectiveness of rail coal service. For example, coal is near the bottom among all major commodities in terms of gross revenue per carload originated. The average for 2005, \$1,304, is 15 percent lower than the comparable inflation-adjusted average for 1990. That there is any

decline in this measure is astounding, given the increase in average length of haul for rail coal movements from 539 miles in 1990 to 751 miles in 2004.

Likewise, revenue per ton of coal originated in 2005 (\$11.68) was less than half the average for all commodities (\$24.61). In inflation-adjusted terms, average revenue per ton for coal was 25 percent lower in 2005 than in 1990.

Faced for decades with falling returns, railroads, like any other industry, would ordinarily have had an incentive to extract capital from its coal business. However, highly successful productivity-enhancing programs during this period allowed declining returns to coexist with increased investment.

It is true that some rail coal rates have increased in 2004 and 2005, but as explained in more detail below, railroads need to increase their coal revenues if they are to make the reinvestments in their systems that will be necessary for them to meet future coal transportation needs.

CAPACITY IS A CHALLENGE EVERYWHERE IN TRANSPORTATION TODAY

There is a tremendous amount of strength and flexibility in our nation's transportation systems, but it is clear that all freight modes in the United States, including railroads, are facing serious capacity challenges today, and that these challenges will only worsen over time if action is not taken.

For U.S. freight railroads, year-over-year quarterly carload traffic has risen in nine of the past ten full quarters, and intermodal traffic has increased in each of the past 16 full quarters, year-over-year. U.S. railroads today are hauling more freight than ever before.

These traffic increases have resulted in capacity constraints and service issues at certain locations and corridors within the rail network. In fact, excess capacity has disappeared from many critical segments of the national rail system.

The reality that rail assets are being used more intensively is reflected in rail traffic density figures. From 1990 to 2005, traffic density for Class I railroads—defined as ton-miles per route-mile owned—more than doubled. (Other measures of traffic density, such as car-miles per mile of track, have also shown substantial increases.) Of course, different rail corridors differ in their traffic density and their change in density over time, and individual railroads differ in the degree to which their capacity is constrained overall. Still, there is no question that there is significantly less room to spare on the U.S. rail network today than there was even a couple of years ago.

In light of current capacity and service issues, some shippers and others have inappropriately blamed railroads for not having enough infrastructure, workers, or equipment in place to handle the surge in traffic. Perhaps railroads and their customers could have done a better job of forecasting and preparing for the sharply higher traffic volumes of recent years. But to contend that railroads can afford to have significant amounts of spare capacity on hand ‘just in case’—or that shippers would be willing to pay for it, or capital providers willing to finance it—is completely unrealistic. Like other companies, railroads try to build and staff for the business at hand or expected to soon be at hand. “Build it and they will come” is not a winning strategy for freight railroads.

Over the past couple of decades, Class I railroads have shed tens of thousands of miles of marginal trackage. They had no choice—they could not afford to keep these marginal and unprofitable lines, and they freed resources for use on higher priority core routes. Most of the miles that were shed were transferred to short-line operators, and most of these remain part of our rail network. Even if railroads could have afforded to retain this mileage—and again, they could not—most was in locations that would not help ameliorate today's capacity constraints.

In part, this is because long-lived rail infrastructure installed long ago was often designed for types and quantities of traffic, and origin and destination locations, that are dramatically different than those that exist today. For example, only within the last two decades has Powder River Basin coal taken on the enormous importance it currently enjoys. Similarly, the explosive growth of rail intermodal traffic is mainly a phenomenon of the past 20 years.

When business is unexpectedly strong, railroads cannot expand capacity as quickly as they might like. Locomotives, for example, can take a year or more to be delivered following their order; new entry-level employees take six months or more to become hired, trained, and qualified; and it can take a year or more to plan and build, say, a new siding. And, of course, before investments in these types of capacity enhancements are made, railroads must be confident that traffic and revenue will remain high enough to justify the enhancements for the long term, and that the investment will produce benefits greater than the scores of alternative possible

investment projects. Again, in this regard railroads are no different than their customers.

MEETING FUTURE COAL TRANSPORTATION NEEDS

As noted earlier, since 1990 railroad coal movements have sharply increased along with coal production and consumption. With coal demand expected to continue to rise for the next decade and beyond, railroads will be called upon to move much more coal than they do today.

Railroads' past performance strongly suggests that they will be able to handle this increased demand for coal transportation. From 1990 to 2005, U.S. coal production rose 10 percent, while rail coal tons originated rose 26 percent and rail coal ton-miles rose well over 50 percent—both multiples of the growth in coal production. This market response by railroads can continue only if railroads' ability to make the necessary investments in their networks is not constrained.

To help ensure that adequate coal-carrying capacity is specifically available to meet future coal transportation needs, railroads are taking a variety of actions. For example, events of the past year show that it takes time to adjust to fluctuations in coal supply and demand, so railroads are emphasizing the need for coordinated, timely planning with customers and suppliers. To this end, railroads meet regularly with coal companies and electricity producers to determine how to best conform rail transportation offerings to their needs. These joint efforts include such objectives as meeting peak period demand and performing track maintenance as efficiently and unobtrusively as possible.

In addition to trying to balance earnings with investment needs, railroads are taking other steps to position future capital investment to support future capacity for coal and other traffic. For example, they are encouraging the use of public-private partnerships for rail infrastructure projects, especially in cases where a fundamental purpose of the project is to provide public benefits or meet public needs. Railroads are also advocating a tax incentive program for infrastructure investments that expand capacity, and they are continuing to aggressively seek productivity and technological enhancements to improve operations.

Railroads are successfully increasing productivity—tons of coal per train have been steadily increasing, for example—and are seeking ways to improve interchange speed and throughput at rail/barge terminals. Finally, railroads know that substantial additional coal movements will require substantial new investments in infrastructure and equipment, and individual railroads are taking up this challenge.

Railroading is a network business, meaning that operational improvements or investments in one location can affect rail traffic a thousand miles away. For this reason, even investments made on rail lines that do not carry substantial volumes of coal can have a positive effect on railroads' coal-carrying operations.

From 1980 through 2005, Class I railroads invested nearly \$360 billion (and short lines spent additional billions) to maintain and improve infrastructure and equipment, with most of this spending indirectly or directly benefiting coal movements. After accounting for depreciation, freight railroads typically spend \$15 billion to \$17 billion per year—equal, on average, to around 45 percent of their operating revenue—to provide the high quality assets they need to operate safely and efficiently.

Moreover, rail capital spending, which is already enormous, is expected to rise to around \$8.3 billion in 2006, up from around \$5.7 billion just four years earlier. This huge increase demonstrates the diligence with which railroads are responding to the capacity and service issues.

Railroads essentially have no choice but to reinvest enormous sums back into their systems. It takes an enormous amount of money to run a freight rail system; it simply cannot be done on the cheap. The rail industry is at or near the top among all U.S. industries in terms of capital intensity. From 1995-2004, U.S. Class I railroads spent, on average, 17.8 percent of their revenue on capital expenditures. The comparable figure for U.S. manufacturing as a whole was just 3.5 percent. Similarly, in 2004, Class I railroad net investment in plant and equipment per employee was \$667,000—more than eight times the average for all U.S. manufacturing (\$78,000).

The following is just a sampling of the diverse types of capacity- and service-enhancing investments individual railroads have recently made or will soon make that will directly or indirectly benefit coal shippers:

- BNSF took delivery of 1,300 rapid-discharge aluminum coal cars in 2005, as well as 288 new locomotives, of which approximately 90 were assigned to coal service. BNSF plans to add 362 more locomotives in 2006, half of which will be used in coal service. Planned investments directly related to its coal business over the next couple of years include \$500 million to \$800 million on track and

terminal expansions; well over \$1 billion on new locomotives; and more than \$1.2 billion for additional aluminum rapid discharge train sets. Over the past decade, BNSF has spent more than \$2.2 billion on investments specifically aimed at increasing coal-carrying capacity.

- Likewise, Union Pacific has spent enormous sums on its coal service, including more than \$1 billion over the past eight years on locomotives and another \$1 billion on track capacity enhancements specifically for coal. Major projects include completing the \$35 million Marysville, Kansas bypass to expedite PRB coal trains; completing a \$40 million Denver bypass to ease the flow of east-bound trains; a new siding on the North Fork branch line in Colorado; several sidings in Southern Illinois to support coal growth; and continuing a multi-year effort to install centralized traffic control on the Central Corridor East/West mainline in Iowa. In 2006, UP will acquire more than 500 new coal cars and dozens of additional locomotives to support coal.
- Earlier this month, BNSF and UP agreed on plans to build more than 40 miles of third and fourth main line tracks, at a cost of about \$100 million over the next two years, to meet current and future forecasted demand for PRB coal. This project is in addition to the construction of 14 miles of a third main line track completed last year and an additional 19 miles of the third main line currently under construction and scheduled to be fully operational in September 2006. The total cost of this nearly 75-mile capacity expansion will be about \$200 million.
- In 2006, Canadian National will spend \$1.2 billion to \$1.3 billion on capital programs in the United States and Canada. Included are the reconfiguration of the key Johnston Yard in Memphis, a gateway for CN's rail operations in the Gulf of Mexico region; siding extensions in Western Canada; and investments in CN's Prince Rupert, British Columbia, corridor to capitalize on the Port of Prince Rupert's potential as an important traffic gateway between Asia and the North American heartland.
- In 2005, Canadian Pacific finished its biggest capacity enhancement project in more than 20 years by expanding its network from Canada's Prairie region to the Port of Vancouver. The project increased the capacity of CP's western network by 12 percent and improved the route structure from Canada's Pacific coast to the United States. Like other carriers, CP has added new sidings on congested corridors; taken delivery of dozens of new locomotives and newer, higher-capacity freight cars; and hired and trained hundreds of new employees, many of whom will be in the United States.
- CSX plans to spend around \$1.4 billion per year on capital expenditures in 2006 and 2007, up from \$1 billion in the previous few years, with much of the spending benefiting coal. For example, major investments in the Southeast Express Corridor from Chicago to Florida will enhance coal movements to the growing Southeast market, and a new connection at Willows, Illinois provides a new route and improved capacity for western coal over the St. Louis gateway. In 2005, CSX rebodied 1,336 bottom-dump hoppers and repaired an additional 1,933 coal gondolas and bottom-dump hoppers. In 2006, CSX will rebuild 1,100 bottom-dump hoppers and repair an additional 1,341 coal cars. From 2005-2007, CSX will acquire 300 new locomotives, many of which will be in coal service.
- Kansas City Southern (KCS) is busy integrating its Kansas City Southern de Mexico subsidiary fully into the railroad's other operations. KCS plans to spend \$120 million in the United States and another \$96 million in Mexico in 2006. Particular attention will be given to the construction of new tracks and other improvements at the railroad's Shreveport hub; improvements on the "Meridian Speedway" between Shreveport and Meridian, Mississippi to augment the new rails, new sidings, and new drainage system installed in 2005; and the expansion of rail yards, track upgrades, and new sidings on its "Tex-Mex" subsidiary.
- Norfolk Southern (NS) will purchase more than 220 new locomotives from late 2005 through mid-2006 to augment the hundreds purchased over the past few years. Scores of these locomotives are dedicated to coal. NS is also in the midst of its largest-ever locomotive rehabilitation program—in 2005, 491 locomotives were overhauled and 29 were rebuilt; another 420 will be overhauled and 52 rebuilt in 2006. NS is investing \$60 million to add track capacity for coal movements between Memphis and Macon, Georgia, and \$42 million to build five miles of new line to improve rail service at a coal-fired power plant.

Rail capacity is a function of personnel in addition to infrastructure, and railroads have been aggressively hiring and training crews to expand capacity. After decades of steady decline, rail employment has been on the increase since 2004. According to STB data, the number of Class I train and engine employees (essentially, engi-

neers and conductors) rose from 61,113 in December 2003 to 69,658 in December 2005, an increase of 14 percent in just two years. The number of maintenance of way and structures employees rose from 32,925 in December 2003 to 34,227 in December 2005, an increase of 4 percent. Overall Class I employment rose 8 percent from December 2003 to December 2005.

Other steps railroads are taking to enhance capacity and improve service include examining and, where appropriate, revamping their operating plans with an eye toward improved asset utilization and enhanced fluidity. Railroads are also engaging in innovative collaborations with each other and are constantly developing and adopting new technologies. For example, railroads are developing and implementing complex computer models to optimize train movements and trip planning. Railroads are also working with customers to improve planning and communication.

RAILROADS MUST BE FINANCIALLY HEALTHY TO EXPAND COAL CAPACITY

Railroad efforts to improve their ability to transport coal cost an enormous amount of money and point to why railroads are implementing a new "commercial paradigm."⁴

Since Congress passed the Staggers Act, railroads have only slowly made partial progress toward the goal of long-term financial sustainability, which is essential if railroads are to have any hope of meeting future capacity needs.

This slow progress is documented in the STB's annual revenue adequacy determinations. A railroad is "revenue adequate"—i.e., it is earning enough to cover all costs of efficient operation, including a competitive return on invested capital—when its rate of return on net investment (ROI) equals or exceeds the industry's current cost of capital (COC). This standard is widely accepted, approved by the courts, and similar to that used by public utility regulators throughout the country. It is also consistent with the unassailable point that, in our economy, firms and industries must produce sufficient earnings over the long term or capital will not flow to them. As a prominent Wall Street rail analyst recently noted, "Earning the cost of invested capital is not the end goal, but the entry ticket to the race, a credit without which Wall Street will squeeze investment."⁵

During the more than 25 years in which railroad revenue adequacy determinations have been made, railroads have significantly narrowed the COC vs. ROI gap, but a gap still remains.

Railroad coal customers and their trade association representatives are among the most vocal proponents of restrictions on rail earnings, but utilities certainly understand the importance of long-term financial sustainability.

A spokesman for a major Florida electric utility, for example, noted, "If we can't make an attractive investment for the shareholder, then we are going to have a very difficult time going in the marketplace and competing for dollars."⁶

Likewise, in an advocacy piece on the need for adequate investments in electricity transmission infrastructure, a representative of the Edison Electric Institute (EEI—the major trade association for investor-owned utilities), wrote:

I cannot overemphasize the need for FERC to establish and put into effect a durable regulatory framework that says if I prudently invest a dollar in transmission infrastructure, that I will be able to fully recover that dollar, along with my cost of capital, through electricity rates. Such a framework is essential to raising the substantial and nearly unprecedented amount of capital necessary to construct needed, cost-effective transmission facilities.⁷

Earlier this month, EEI released a document that defends the sometimes significant price increases electricity consumers are facing in many parts of the country. EEI writes:

Clearly, electricity is an indispensable commodity that is crucial to our daily lives and to our nation's continued economic growth. And the costs needed to reinforce the nation's electric power system are worthy long-term investments. The bottom line is that we are living in a rising cost environment, and electricity prices have been a great deal for many years. Even

⁴ Doug Glass, Vice President and General Manager-Energy, at the UP Analyst Meeting, May 16, 2005.

⁵ Anthony Hatch, "Six for 06: Trends To Watch in Rail," *The Journal of Commerce*, January 2006.

⁶ Spokesman for Florida Power & Light, quoted in *The Palm Beach Post*, January 16, 2005.

⁷ Statement on behalf of the Edison Electric Institute by Alan J. Fohrer, CEO, Southern California Edison, to FERC, April 22, 2005.

with expected rate increases, electricity prices are projected to remain below the rate trends of other goods and services. In fact, the national average price for electricity today is significantly less than what it was in 1980, adjusted for inflation.

Of course that is small comfort to customers who will be opening costlier electric bills in the coming months. And no one—utility, regulator, or customer—is eager to see electricity prices increase. The unavoidable reality, however, is that we all must address the fact that in order to ensure that electricity remains affordable and reliable, we must help shoulder the expense of reinforcing and upgrading our electricity infrastructure. It is the only way to be certain that electricity will be there when we need it, and at a price we can afford over the long term.⁸

Railroads wholeheartedly agree with the sentiment expressed in this statement. It is critical to our nation's economy and standard of living that we upgrade and reinforce our electricity infrastructure.

We also think that EEI's statement above is just as valid, if not more so, if the word "electricity" were changed to "freight railroading." Looking ahead, the United States cannot prosper in an increasingly competitive global marketplace if our freight railroads are unable to meet our growing transportation needs, and increasing railroad capacity is critical in meeting these needs. Like utilities, railroads must be able to both maintain their extensive existing infrastructure and equipment and build substantial new capacity. Railroads could not do this if their earnings were unreasonably restricted, any more than utilities could.

Railroads think the Congressional Budget Office (CBO) summarized the situation appropriately when it recently noted, "As demand increases, the railroads' ability to generate profits from which to finance new investments will be critical. Profits are key to increasing capacity because they provide both the incentives and the means to make new investments."⁹

RECENT RAILROAD FINANCIAL RESULTS ARE A POSITIVE DEVELOPMENT

Without question, 2005 was a good year for railroads financially—revenue and net income were both up substantially. Frankly, it's about time the rail industry had a year like 2005, and they need more like it going forward. Improved rail earnings should be viewed as a welcome development because it means that railroads are better able to justify and afford the massive investments in new capacity and upkeep of their existing systems that need to be made.

That said, no one should be confused regarding railroads' relative profitability in 2005. In 2005, when railroads were hauling record levels of traffic and had sharply higher-than-historical profitability, rail industry earnings were still substandard compared to other industries.

Return on equity (ROE) is commonly used as an indicator of short-term profitability. According to *Business Week* data covering the S&P 500, in 2005 the average ROE for the four largest U.S. railroads was 12.3 percent—a substantial improvement over the 7.8 percent recorded in 2004, but still well below the 16.1 percent average for all firms in the S&P 500 for 2005. The railroad ROE was well below the median for chemical companies in the S&P 500 (18.7 percent) and only moderately higher than the median for electric utilities (10.8 percent) in the S&P 500.

Data from the *Fortune 500* tell a similar story. In 2005, the median ROE for the railroads in the *Fortune 500* was 14.1 percent, less than the *Fortune 500* median of 14.9 percent and well below the ROE of numerous major rail customer groups.¹⁰ In each of the 20 years from 1986 to 2005, the median ROE for Class I railroads was less than the median for all Fortune 500 companies, and in 15 of the 20 years, the median railroad ROE was in the lowest quartile among *Fortune 500* industries.

Thus, even the improved rail earnings in 2005 are generally no more than (and in most cases less than) what non-regulated companies and industries earn.

In any case, whatever may be the minimum level of earnings, profitability, or solvency considered adequate by financial analysts to declare a railroad "healthy" for short-term investment purposes, the primary question vis-à-vis those who want to

⁸EEI, *Rising Electricity Costs: A Challenge For Consumers, Regulators, And Utilities*, May 2006.

⁹Congressional Budget Office, *Freight Rail Transportation: Long-Term Issues* (January 2006), p. 11.

¹⁰The median railroad ROE for *Business Week* and *Fortune 500* differs because different definitions were used. *Business Week* uses net income excluding discontinued operations; *Fortune* uses net income including discontinued operations. *Business Week* uses average shareholders' equity for a year; *Fortune* uses end-of-year shareholders' equity.

impose earnings restrictions on railroads is whether a railroad's long-term profitability has reached the point at which regulatory or legislative reactions should be contemplated. Short-term improvements in profitability, short-term attainment of adequate revenues, accumulations of cash reserves, dividend pay-outs, and other similar measures do not signal that the necessary level of long-term profitability on rail operations has been achieved. Only a return on investment exceeding the cost of capital over a sustained period can begin to indicate a sustainable financial environment.

REREGULATION IS NOT THE ANSWER TO RAILROAD CAPACITY AND SERVICE PROBLEMS

Self-interested advocacy groups from time to time propose amendments to the Staggers Act or changes to the regulatory regime it spawned that would fundamentally alter the landscape in which railroads operate, grievously harm our nation's transportation system, and deviate sharply from Congress's intent in passing Staggers.

Most recently, some rail critics, including some coal consumers and their representatives, have wrongly seized upon railroads' "record profits" in 2005 and the coal delivery problems mentioned earlier to support their claims that the government should take a far more active role in railroad operations, both in terms of setting rates and in terms of mandating service parameters. Their proposals are bad public policy and should be rejected.

Railroads have had to battle efforts to reregulate the industry since the Staggers Rail Act partially deregulated railroads in 1980. And while it is beyond the scope of this testimony to discuss in detail why reregulatory legislation (like S. 919, the "Railroad Competition Act of 2005") is wrongheaded, certain important points should be made.

The primary objective of those who call for rail reregulation is lower rail rates, even though, as discussed above, railroads are not earning excessive (or even adequate) profits. Lower rail rates would translate directly into lower rail earnings. But proponents of reregulation ignore the fact that needed investments, like most private investment decisions in our economy, are driven by expected returns. The hundreds of billions of dollars invested in U.S. freight railroads since Staggers would not have been provided if not for the investors' expectation that the opportunity for a competitive return promised by Staggers would remain.

Under reregulation, rail managers could not commit, and rail stockholders would not supply, investment capital under the conditions needed to improve service and expand capacity, because the railroads considering such investments would not have a reasonable opportunity to capture the benefits of those investments. Disaster might not occur overnight, but there would be little or no capacity expansion—something that certainly would have a near-term and significant adverse effect on coal and other shippers.

The financial community, on whom railroads depend for access to the capital they need to operate and expand, has consistently supported the view that, under reregulation, an era of capital starvation and disinvestment would return. They understand that no law or regulation can force investors to provide resources to an industry whose returns are lower than the investors can obtain in other markets with comparable risk.

That's why, in testimony to the U.S. Senate in May 2001, Morgan Stanley's James Valentine cautioned that rail customers "need to be careful what they wish for, as their efforts to drive rates lower will likely only cause more capital to leave the industry and service to deteriorate." It's also why, in a January 2004 research report, John Barnes of Deutsche Bank warned, "In the beginning, there would be short-term benefit [from reregulation] for captive shippers through lower rates. However, instant gratification usually comes with a headache the next morning, and there would be no Advil strong enough for the long-term damage associated with railroad re-regulation . . . [O]ver the long-term, everyone would share in the hangover: share-holders, customers, railroads, the entire transportation system, the U.S. and global economies. In the worst case scenario, . . . a repeat downward spiral of the railroad industry, similar to the 1970s, could occur, with multiple bankruptcies that could cripple the transportation system."

Again, coal users in the electric power industry know this point is true, even if they maintain that railroads are somehow different from other industries in this regard.

For example, the National Rural Electric Cooperative Association has noted that it "believes that the best way to attract capital to transmission at reasonable rates is to give investors greater certainty that they will receive a return on their invest-

ment.”¹¹ The rail industry can think of no better way to create uncertainty for their own capital providers “that they will receive a return on their investment” than proposals such as S. 919. It would mean less rail capacity when we need more.

At their most basic level, proponents of railroad reregulation believe that railroads charge too much and that the use of differential pricing by railroads is unfair. They fail to understand that a railroad must balance the desires of each customer to pay the lowest possible rate with the requirement that the overall network earn enough to pay for all the things needed to keep it functioning now and into the future. Simply put, no amount of rhetoric about “competition” or “fairness” or “captivity” can change the fact that if a railroad cannot cover its costs, it cannot maintain or expand its infrastructure and provide the services upon which its customers and our nation depend. Self-serving pleas to reregulate railroads must be considered within this context.

Indeed, when one looks behind what proponents of reregulation are urging upon Congress to be “fair” and “balance” shippers’ needs with the railroads’ needs, it is clear that “fairness” and “balancing” are euphemisms for “subsidizing,” and that the needs of the railroads and the general public are nowhere to be seen.

Many of those who support rail reregulation wrongly claim that their proposals are consistent with the spirit of the Staggers Act. As a point of fact, proposed changes to the current railroad regulatory regime are based on a fundamental misrepresentation of what the Staggers Act was all about.

First, nothing in the Staggers Act is meant to imply that the only competitive force that matters is rail-to-rail competition, that service to a shipper by a single railroad is equivalent to monopoly power, and that all rail shippers therefore have a right to service by more than one railroad. Rather, Staggers was premised on the understanding that the market—not regulatory or legislative fiat—would determine which markets have sufficient demand to sustain multiple railroads and which do not. Staggers encourages the creation of additional competition through private investment and initiative, but it does not seek to artificially manufacture additional competition through governmental intervention. The overwhelming number of rail customer facilities (including coal fired power plants) are, and always have been, served by only one railroad, because the economics never justified service by more than one railroad. Regulatory proposals to mandate two-railroad service are an attempt by rail customers to obtain from the government that which the market will not give them.

Second, Staggers did not bestow on railroads a special public service obligation, verging on the governmental, to subsidize other businesses, compensate for regional disadvantages or characteristics, or serve as the instrument for advancing other local, regional, or national objectives at the railroads’ own expense. Railroads should not be considered to be public utilities, any more than the companies that supply coal or any other input to utilities should be.

Third, Staggers was not meant to force a railroad to price one shipper’s movements at the same rate as another shipper’s movements, or to cap rates at some percentage of variable costs. Instead, Staggers explicitly recognized differential pricing as essential for railroads. Only by pricing in accordance with the varying demands for rail service (with reasonable regulatory protections against unreasonable rates) can railroads efficiently recover all of their costs, serve the largest number of customers, and maintain the viability of the rail system. Differential pricing benefits all shippers, because lower prices to some shippers generate revenue which otherwise would have to be raised from those with the strongest demand for rail transportation.

Of course, coal shippers are not always thrilled with the prices they are able to negotiate with railroads for coal transportation, any more than they are always happy about the prices they are able to negotiate with mines for coal supplies. Virtually every purchaser of goods or services, including railroads, would like to get a better deal than what they have from their suppliers. But there is no question that, since Staggers, the vast majority of railroad rates are market-based and driven by competition—just as Staggers intended.

Fourth, Staggers was not meant to be a vehicle through which one railroad could be forced to make its facilities available for use by another railroad. Under current regulation, unless a railroad is found to have engaged in anti-competitive conduct, it can determine for itself how to utilize its assets. In other words, the market prevails absent anti-competitive conduct.

¹¹Comments of the National Rural Electric Cooperative Association Proposed Rulemaking Promoting Transmission Investment Through Pricing Reform,” FERC Docket No. RM06-4-000, January 11, 2006, p. 17.

Fifth, Staggers was not intended to prevent railroads from engaging in practices that improve efficiency, or from offering incentives to shippers that make efficiency improvements themselves. Thus, for example, railroads typically offer shippers incentives (in the form of lower rates) to move their product in larger, more cost-effective shipments. The lower rates, which reflect railroads' cost savings, result in more efficient movements and increased competitiveness in the marketplace. Under this system, the market—not railroads—decides whether investments in facilities designed to handle more efficient shipments are appropriate.

Sixth, nothing in the Staggers Act supports efforts to cast aside the fundamental tenet of the economics of competition that says that where competition exists, there should be no regulatory intervention. Because the vast majority of rail freight movements are subject to a wide array of competitive forces—including geographic competition, product competition, competition from trucks and barges, countervailing shipper power, plant siting, long-term contracts, and technological or structural changes—the vast majority of rail movements should likewise be free of governmental oversight. Reregulatory proposals like S. 919 would unjustifiably subject huge swaths of rail traffic to governmental oversight.

Finally, Congress, through Staggers, has provided (and the Interstate Commerce Commission and the STB have implemented) effective remedies to protect shippers from abuse of market power or anti-competitive behavior. But Staggers was not designed to allow those unhappy with either the rates they are charged or STB decisions in rate cases to simply abandon the use of sound economic principles as a basis for rate decisions or to ignore the fundamental principle that railroads need to earn sustainable revenues.

Remedies for rail rates claimed to be unreasonably high are available if it can be shown that the railroad does not face effective competition for the issue traffic and that the rates are, in fact, unreasonably high. Upon finding a rate unreasonably high, as it has done many times, the STB can award reparations and/or prescribe maximum reasonable rates for the future.

The fact remains, though, that absent governmental subsidies, shippers must be willing to pay for the rail service they say they need, and the market is far superior to the government in determining who should pay.

CONCLUSION

U.S. freight railroads do a remarkable job in meeting the needs of an extremely diverse set of shippers. Railroads move hundreds of thousands of railcars and tens of millions of tons to and from thousands of origins and destinations every day, and no commodity accounts for more carloads and tons than coal. The vast majority of these shipments arrive in a timely manner, in good condition, and at rates that shippers elsewhere in the world would love to have.

Railroads work extremely hard to keep their coal service as responsive and productive as possible. They meet regularly with coal companies and electricity producers to help ensure that rail service conforms to customer needs. They invest billions of dollars each year in infra-structure and equipment. These investments, along with technological improvements that enable them to use their assets more productively, have allowed railroads to increase their coal-carrying capacity and capability as coal demand has climbed.

Still, it is clear that the rail transportation of coal, and the entire coal logistical chain, can be improved, and railroads are eager to work constructively with coal suppliers and coal consumers to find reasonable ways to achieve this goal.

Policymakers can take a number of steps to help ensure that needed investments are made in rail infrastructure to support coal transport. First, they can reject calls to reregulate railroads. Reregulation would make it impossible for railroads to earn enough to sustain their operations and attract the capital necessary for expansion, thereby suppressing the rail industry's ability to meet the nation's rapidly growing appetite for coal.

Second, they can create legislative certainty regarding the level and timing of required emissions reductions and other coal-related environmental issues, thereby removing roadblocks that currently hinder both utility and rail investments.

Third, policymakers can encourage the use of public-private partnerships for rail infra-structure projects and pass tax incentives for projects that expand rail capacity.

Finally, I urge members of this committee and others in Congress to thoroughly consider the promise that coal offers our nation and the railroads' critical role in transporting coal. Railroads have in the past, and can in the future, furnish the capacity required to meet coal demand if destructive economic regulation is not permitted to suppress rail earnings and reduce railroads' ability to make the invest-

ments they need. Operating within the competitive marketplace, railroads can continue their cooperative initiatives with utilities and coal suppliers to deliver to consumers exceptional efficiency and value.

Through technological advances, innovative service offerings, competitive rates, aggressive reinvestment programs, and other factors, railroads have shown their willingness and ability to provide high value transportation service to coal shippers throughout the country, and they look forward to having the ability to continue to do so.

The CHAIRMAN. Have you completed your testimony?

Mr. HAMBERGER. Yes, sir.

The CHAIRMAN. I am going to ask the staff. Is there a vote up now? They are still not ready. So we are going to proceed.

Do you have some observations, Senator? Let me yield to the distinguished Senator from Louisiana. Senator Landrieu, do you have comments or questions?

**STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA**

Senator LANDRIEU. I do, Mr. Chairman, and I first of all want to thank you for conducting this hearing.

I have enjoyed reviewing the testimony on this very important subject from all of you. I would say that you have the perfect chairman to help resolve this issue because not only of his knowledge of the electric grid itself and the energy, both supply and demand issues, but as a member of the Appropriations Committee on Energy and Water, he is also in a key position to try to resolve some of these difficulties, because you are correct when you say it is about railroads and waterways and about a couple of other points, stockpiles, incentives for investments, that can help us work through this difficult situation.

So I will submit a further statement to the record, but Mr. Chairman, from a State, as you know, that has almost every major railroad I think coming through, we need to get a great deal of feedstock, if you will, from coal or natural gas to produce so much of what we produce in Louisiana.

But we are also key to the waterway system. It really is about, Mr. Chairman, coming up with a broader solution to transporting the materials that we need, and secondly, having gone through and lived through these hurricanes, it is important to have just not one way to get there. In the event that you get blocked by a flood or an earthquake or a tornado or a hurricane, we need redundancy in a transportation system. It increases competition. It keeps everybody's rates down.

So I guess my final comment is we do have a rail situation we have to look at. Your testimony, Mr. Hamberger, was a good defense of the panel, but I think it is broader. The solution will be found broader than just making the rail system more efficient or more effective, and I think you are making progress. It is about how do we use our waterways a little bit better, how we use reasonable stockpiles.

Mr. Chairman, as usual, I think you are right on point. I am going to stop there. I will save questions for later, but this is something that we have got to stay focused on until we get some resolutions.

Thank you all.

The CHAIRMAN. Thank you, Senator.

Two distinguished Republican Senators that have been here are both interested in returning, and they will. So we will give them a chance, even if I am finished. I will not necessarily just sit here and wait for them, but I will set up the system where they can come back and do what they would like to do.

Having said that, I want to know, Mr. Hamberger, how do you explain to the American people a statement made here by Mr. Wilks that right here in the United States, with all the coal we have got—and you just told us we had the greatest rail transportation system in the world. How do you explain that they have to go buy coal from Indonesia?

Mr. HAMBERGER. Well, I would like to make sure that that is in context, Mr. Chairman. It is my understanding from the EIA testimony earlier, that total imports of coal into the United States in 2005 was 30 million tons. The amount of coal produced in the United States is 1.1 billion tons. So this is certainly on the margin. We are also exporting about three times that amount of coal. The fact is that coal is a commodity and there is some natural trade in it.

Having said that, the supply chain, as I mentioned, has to be looked at from the ability of the coal mines to produce it, our ability to move it, the increase that occurred. As I indicated in my opening statement, demand for coal in 2002, 2003, 2004 was less than in 2001. Then with the surge, we are very capital intensive. To lay more track, as you were asking earlier, go out and purchase new locomotives, new cars, does take some time.

I appreciate the comment from the gentleman from Georgia indicating that he is working with his railroads, and I would say to you that that is the way that we can solve many of these problems by sitting down on a bilateral basis between the utility, the railroads serving them, and work through the supply issues as they change over from natural gas to coal. We just need to be able to make sure that the capacity is there.

The CHAIRMAN. So in a nutshell, your answer to my question would be that no matter how great the railroad system and how much coal we have got here in America, there is still some import and export that occurs, and we do import some coal. The marketplace dictates when import is appropriate. Is that generally a statement that you are making?

Mr. HAMBERGER. Yes, sir.

The CHAIRMAN. I think the gentleman who told us about the importation from Indonesia would leave the impression that it was not because of the general market, but rather that the railroads had created something extraordinary that forced you to have to go do this. Do I have the correct assumption here?

Mr. WILKS. Mr. Chairman, let me defer that to Mr. Jackson.

The CHAIRMAN. Yes, Mr. Jackson.

Mr. JACKSON. Mr. Chairman, the coal that we are buying from Indonesia, as indicated in my testimony, is higher cost than Powder River Basin fuel. So we would not choose to buy that fuel if we could get all the deliveries that we require from the Powder River Basin. So these imports and the impact on our ratepayers are

not based on an economic decision to buy it. It is a necessity to build our inventories.

The CHAIRMAN. It is based upon the fact that you cannot get enough from the system that is led by the American railroads. Is that correct?

Mr. JACKSON. That is correct.

The CHAIRMAN. Are you blaming them for something in that statement, or are you just giving us a statement?

Mr. JACKSON. No. I'm just giving you a statement that we feel like the railroad system is overburdened and that the system needs to be improved to meet all the customers' needs.

The CHAIRMAN. Okay.

Mr. HAMBERGER. In which we would concur, of course, Mr. Chairman, that new capacity is needed, and that is why we are spending \$8.3 billion this year to help provide it.

The CHAIRMAN. Right.

Now, there is one chart that does impress me. Put up the one about the dramatic change in natural gas usage versus coal, please, for electricity generation.

Restate for the committee and for the record here, Mr. Hamberger. What are you telling us that chart says?

Mr. HAMBERGER. Well, I'm telling you that that chart and the dramatic rise of the amount of electricity coming from natural gas-fired utilities in the time period between 1990 and 2005 went from 12 percent to 19 percent, while coal went from 52 to 49, still very important obviously, but going down. So utilities, for whatever reason, clean air, environmental reasons, the price of natural gas, made decisions and sent to the marketplace decisions that they were moving toward natural gas as the preferred fuel for electricity. That sends a signal both to the mining companies and to the railroads that you invest to meet the needs, you invest to meet the demand, and to reiterate, that demand went down over the same period from 2002, 2003, and 2004, less than in 2001. And then when it flips on in 2005, the demand, because natural gas prices went up to \$16-\$17 a thousand mcf, it is not possible in our capital intensive industry, in the railroad industry, to just add capacity overnight. That is what we are trying to do now to address the increase in demand that came through in 2005 and 2006.

The CHAIRMAN. Where does it show the new increases in capacity and need for coal? That comes next?

Mr. HAMBERGER. Well, what we did see is in 2005 there was an increase in coal and, continuing here in 2006, an increased demand. We are moving 3.3 percent more this year over last year.

The CHAIRMAN. Please.

Senator LANDRIEU. Let me ask this question, if I could, because I can appreciate what you are saying. Now, our chemical industry has been screaming, just like our utilities and others, about the rail situation. I understand their viewpoint as well.

Let me get back to not just rail capacity, but is it possible to solve some of this by increasing the efficiency of waterways? And what is stopping that, or is it not a solution to this problem? I would like to ask the railroads this. I know they compete with you in some ways, water versus rail.

Mr. HAMBERGER. We also have many transload routes with the barge and towing industry both in the grain—I don't know about chemicals, but certainly grain and coal. At this point it would appear to me that the demand is such, although I just saw an article that barge rates are actually falling because demand for moving coal by barge is falling here in the recent weeks.

Senator LANDRIEU. This is my question. Since we need to move coal and railroads are not able, for whatever reason, to move enough of it, would anybody like to testify why we are not moving more by barge? I don't know. Would anybody like to—

Mr. WILKS. Well, Senator Landrieu, let me comment on that. I think part of the reason is most of the issues that we are dealing with are in States that do not have ready access for barge transportation, and rail is really the only option for us to deliver coal.

Senator LANDRIEU. For the interior States without river systems and without waterway systems.

Mr. WILKS. It would seem that that would be more practical, but maybe one of the other panelists would comment on that.

Mr. JACKSON. Senator, our facilities being located in the State of Georgia, we do not have the navigable waters that other States would have to use barge traffic for our fuel deliveries.

We are looking at what opportunities there are to barge fuel into ports, such as Savannah or Charleston or our ocean ports, where we could get access to waterborne deliveries from the Midwest through port facilities or other transloading opportunities. So we are looking at that as an option, but it is not really viable at this point. It is not an established practice.

Mr. HAMBERGER. Senator, I should not do this, but let me just say that when we were cooperating with the American Waterway Operators in working to get the 4.3 cent deficit reduction fuel tax repealed, the American Waterway Operators did testify that the reason they wanted that tax repealed and not put into the inland waterway trust fund was because the inland waterway trust fund was building up a surplus and was not being spent on modernizing the locks and dams that they felt were so necessary.

Senator LANDRIEU. Well, that is exactly my point.

Mr. HAMBERGER. That could have something to do with it.

Senator LANDRIEU. That is exactly my point because this chairman is an expert on inland waterways, and I have been discovering through some other work that I am doing that we are not spending our money wisely to improve the lock systems, and so we cannot use our waterways which work in a lot of ways. One, you do not have trains going back and forth all the time between towns causing transportation issues, which is another whole constituency that is not represented here. But I have got cities screaming because if you try to give them another train through their town, they start yelling because they already have 10 trains going through during the day. They do not want another train going through. Yet, we have to get trains going through to bring coal and everything else our trains are bringing back and forth.

Here I sit in Louisiana, which you know we have more water than we need, and we have a lot of water. I am wondering what is it that perhaps we could work on in a broader question, Mr. Chairman, not for the hearing today, because we do have some

issues with rail and we do have some issues that we have to get resolved. But I hope we will not be so narrow looking for a solution that we forget that there is a bigger picture out there, and part of it is how we move a lot of goods using a lot of different ways, waterways being one.

That is all I will say for right now.

The CHAIRMAN. Did you say something about not using the waterway trust fund, not using all the money for its intended purposes?

Mr. HAMBERGER. That was one of the complaints from the American Waterway Operators, yes, sir.

The CHAIRMAN. Do you remember anything about the history of that waterway user fund?

Mr. HAMBERGER. Yes, sir, I do.

The CHAIRMAN. My only claim to fame for the first 6 years of being a Senator was that I passed that tax, and I defeated Russell Long and all the powerhouses and put that tax on the water users. Then it turns out that after you put it in the trust fund, they do not even use it to build sufficient waterway user needs. You look back on it and wonder why all the hard work.

In any event, I want to go back to this chart because I am confused for a minute. Does this chart say to me correctly, Mr. Hamberger, that if you are in the coal business in 1990—what is the first date up there?

Mr. HAMBERGER. I believe it is 1999 through 2004.

The CHAIRMAN. The earliest date on that end?

Mr. HAMBERGER. 1980 to 1984.

The CHAIRMAN. In that period of time, they are using some significant amount of coal? So you are building up capacity, and then by the end of this chart, everything has been converted to natural gas?

Mr. HAMBERGER. Well, I do not know that it has been converted. I think this might be new capacity brought on line more than conversions.

The CHAIRMAN. But there is no new growth for railroads in this area because nobody is using coal.

Mr. HAMBERGER. The only growth would be the increase in the baseline of coal at the powerplants that are there, but the new capacity being brought on line was natural gas use.

The CHAIRMAN. Then if you keep on waiting for another decade, the thing turns around. Right?

Mr. HAMBERGER. In 2005, yes, sir.

The CHAIRMAN. We start using coal because the price of natural gas has gone through the roof. So this thing flips again.

Mr. HAMBERGER. Yes, sir. Correct.

The CHAIRMAN. And you are not ready for it is the point you are trying to make because you could not have anticipated it.

Mr. HAMBERGER. That is correct.

The CHAIRMAN. Now, let us talk a minute, before I leave, about the desire to have the investment tax credit. First, how serious is the association about an investment tax credit?

Mr. HAMBERGER. We are very serious, Senator, and if I might tell you why. It really arose out of a study performed by the American Association of State Highway and Transportation Officials in 2003.

AASHTO, as they are affectionately known, came to the conclusion that it was in the public interest for more freight, not just coal, but more freight across the board to move by rail because we are three times more fuel efficient. We are three times more environmentally friendly. We have congestion mitigation benefits by taking trucks off the highway.

So it was their view that you could expect private sector companies like my members to invest to the point that it makes economic sense. But you cannot expect private sector companies to invest for purposes of cleaner air or congestion mitigation. Those are public benefits.

So, therefore, the public, if they want those benefits, needs to figure out a way to get involved in what they termed public/private partnerships. One way to do that would be to provide an incentive for the railroads to move forward in time those investments that are on the drawing board.

We invest 18 to 19 percent of all our revenue. It goes back into cap ex, higher than anybody else in the country, very capital intensive. We are ready to do more. This year is \$8.3 billion, higher than ever. But the idea would be only for expansion of capacity.

Senator Lott has agreed to be our lead sponsor on this. So we are very serious about it because we believe that it provides an incentive for more capacity. It would also apply to locomotives. But it is rooted in the AASHTO finding that more freight rail yields public benefits, and that is really the argument.

I would just add the National Mining Association supports that. The National Retail Federation supports it. The American Association of Port Authorities supports it. So we believe that our customers should want this to pass so that there would be even more money invested, so that there would be even more capacity to meet some of the needs so that there would not be supply problems.

The CHAIRMAN. This is my last question. Then I will yield to you and you can close the hearing.

Mr. Hamberger, it seems to me that when you have a market like you have got that is in transition or suffers supply interruptions, as have been described, and you have only a couple of companies doing most of the business, that it is pretty logical that small people, small purchasers or smaller people that acquire coal have a legitimate reason to feel that their complaints will not be heard by the big company, that rather, the big company in a market short situation will choose to sell where there is more money to be made, and that they may get hurt in the process.

Now, you and I are pretty logical people, and you would have to admit that there is every reason for them to think that might be the case. It would be hard for them to get through when that situation appears, the one I have just described. They have a problem and there is a much bigger purchaser in competition with the problem that they have got and whether they will be heard or not is their concern.

Explain to me why that should not be any concern, why we should not say there is any worry about it. That is what really is being said here, as I hear it?

Mr. HAMBERGER. Senator, as I understand it, when we pull up to the Powder River Basin minemouth and get loaded, we do not

determine where that coal goes. The relationship is between the mine and the utility, and they say it is going to this utility or that utility. It is not up to us to then take that train full of coal and decide that we are going to take this one somewhere else, or we are going to take it for export. We are told where to take it by the mine.

In addition, as I did indicate in my testimony, we have sat down with our customers, with the mining companies. We have monthly phone calls with the mine companies to make sure that if we hear that there are utilities that are running low or if they hear about utilities running low, that we try to make sure that there is not a crisis situation, that coal does move to where it is needed. It really is not a matter of a large or small customer. They are all important as far as we are concerned.

The CHAIRMAN. Well, I wish we had more time to go through that. Do you think maybe I had the question right? Was I close to right, Mr. Wilks?

Mr. WILKS. Yes, sir.

The CHAIRMAN. I do not know if we will get to the bottom of this, if there is any way to solve it.

But now I am going to yield to my friend and go vote. Thank you and he will close the meeting. Thanks, everybody. Thank you to all the witnesses.

Senator THOMAS [presiding]. Just a couple questions.

Mr. Hamberger—

Mr. HAMBERGER. May I just, Mr. Chairman, Senator Domenici? I think he gave me permission to put this study by CANAC on the Powder River Basin—

Senator THOMAS. That will be included in the record.

Mr. HAMBERGER. Thank you, sir.

Senator THOMAS. In your last comment there, they tell you where to go with it, but the fact is that there has been more production than has been able to get to the market. It is not a matter of where it goes. It is just not able to go. How do you respond to that?

Mr. HAMBERGER. Well, in some areas that is true. In some areas, it is not. For example, in Colorado for several months this year, the mines were down. They had a couple of roof cave-ins, and our capacity was there, ready to move, and the mining capacity was not there. So we are moving more now out of the Powder River Basin than we ever have. We are up 3.3 percent over last year. The undercutting program has been completed, and I did acknowledge, while you were away, Senator, the situation of last May where we were not moving as much as we wanted to, as much was needed, but we did recover, and by the end of the year did break records by millions of tons of coal.

Senator THOMAS. But it just seems to me that still there exists the overall—the capacity and the demand is more than the movement that is taking place.

Mr. HAMBERGER. Well, I do not disagree, and that is why we are investing \$8.3 billion. Also, the demand is not just for coal, but it is also a demand across the board.

Senator THOMAS. I am not suggesting this is the case, but I hear from folks that because there is a limitation on capacity, the rail-

roads are selective about committing their resources to only those high-producing, high-profitable items. Therefore, they select which ones they can take and which ones they cannot.

Mr. HAMBERGER. I do not believe it is items per se, Senator. I believe that the investments go on those routes, on those corridors where there is the most traffic, and that would make sense that that is where you would invest first, for example, triple tracking the joint line coming out of Gillette.

Senator THOMAS. Again, I am not particularly biased one way or the other, but why are the railroad companies advocating against the DM&E and their application to the Federal Railroad Administration?

Mr. HAMBERGER. Well, let me answer that by saying we are not. The association, in fact, in a move that I believe probably surprised some observers, joined with the Edison Electric Institute in filing an amicus brief in the circuit court of appeals when a challenge was leveled against the STB environmental impact statement process. So we filed an amicus brief supporting the EIS and opposing the challenge to it.

With respect to the RRIF loan application, the AAR has supported the RRIF program, supported the expansion of the RRIF program, but we take no position on any RRIF loan application per se.

Senator THOMAS. Burlington Northern objected to it, however. Is that correct?

Mr. HAMBERGER. I am unaware of anything on the record that Burlington Northern has said. I know you have talked to their executives, and I will have to defer to that.

Senator THOMAS. Railroad earnings for the third quarter of 2005 were right around 12 percent compared to the median earnings of all industries, 6.8. How much of this is being reinvested?

Mr. HAMBERGER. Well, let me just say that for 2005 our return on equity was 14.1 percent versus the median for all Fortune 500 companies of 14.6. So we are below, in fact, the median for Fortune 500. We are also below the median for the S&P 500. But the answer to your question of how much is being reinvested is about 19 percent. Cap ex is \$8.3 billion. \$46 billion is the total revenue for the class 1 industries, and that is consistent over the past 10 years. We have been in the 16, 17, 18 percent range of monies being reinvested in cap ex. That understates the capital intensity. We spend about that much on maintenance. So we are into the \$15 billion-\$16 billion range.

Senator THOMAS. I am sure you have probably commented on this, but I did not hear. How do you react to the accusation that there are captive shippers here?

Mr. HAMBERGER. There are singly served customers. Some of them have more choices than others. There are lots of different market powers out there.

Senator THOMAS. Not in the railroads, there are not.

Mr. HAMBERGER. Well, you have to look at competition not just—

Senator THOMAS. How many railroads are there choices to go to the Laramie River Station?

Mr. HAMBERGER. The issue is are there other forms of competition. Is there product substitution?

Senator THOMAS. On my question on captive shippers, how do you react to that? Do you think there are such a thing as captive shippers?

Mr. HAMBERGER. There are shippers who have a lot fewer choices than others, absolutely. That is why the Surface Transportation Board is there, and that is why the system is in place. In fact, the gentleman on my right at Xcel won a major case at the board in the last couple of years with a 14 percent reduction in rates. So the board does work.

Senator THOMAS. Mr. McLennan, in terms of the policy in the future, what do you think is the chance of moving forward with the IGCC sort of movement to make conversion of coal at the plant or the transmission lines as opposed to railroad transportation?

Mr. MCLENNAN. Certainly, Mr. Chairman, Senator Thomas, it is moving forward. It is particularly in the West, because of the low rank coals, not moving forward maybe as quickly as some of the test cases and activities going on in the East. It doesn't necessarily solve the problem that you just described about could we build it and then transmit it out by a transmission line. I am not sure it solves that issue.

If, for example, you were going to locate an IGCC facility, let us just say, across the border in northern Colorado versus southern Wyoming, you would still face a real transportation issue for that. So even having new technology like IGCC does not necessarily mean that you are going to be able to get the deliveries from a coal perspective to the places where the IGCC plant is.

Now, if your assumption is that we are going to have all the IGCC plants located in the Powder River Basin, then your scenario runs out that you could do that. But to give you an example, when we did our last analysis for a resource development plan, the challenge is with transmission as well, and you referenced this in your opening statement. We are not going to locate a plant in that Powder River Basin at this point even though you are closer to the minemouth coal because of transmission-related issues. So we have chosen to take the risk that we will be able to get in the future rail translocation issues rather than run the risk on the transmission side.

Senator THOMAS. Sometimes it seems like we are being accusatory to different industries and so on. I think we ought to try and avoid that and talk about policy for the future and what impact and short-term impact these conversions have as opposed to what we really need to do to provide these services around the country.

Mr. Wilks, you have generally urged utilities to reduce stockpiles from 60 to 30 days in an effort to reduce cost. How much money is being saved by this?

Mr. WILKS. In our cost of service, the savings that are associated with reducing a stockpile are really pretty low. It is just the cash carrying amount of money. So I do not think those are going to drive our customers' bills one way or another.

It has been a way for us to operate more efficiently, and I think that is to the credit of the railroads. Their efficient operation has allowed us to do that. At the same time, our inability to restore our

inventory has a very significant impact on our customers because we have to use gas as the alternative to using coal.

Senator THOMAS. Mr. Sahr, your testimony indicates that customers' bills were between 5 and 10 percent higher as a result of coal delivery. Do you have an estimate of what the increase in terms of the actual dollar amount on a per capita basis is?

Mr. SAHR. Well, I think you would have to look at the individual customer, but I think the salient point there is, whether you are a business or residential customer, you are seeing significant increases.

Senator THOMAS. You do not have a total dollar amount?

Mr. SAHR. I do not have the total dollar amount. Depending on the particular plant and sector, I could get some additional figures for you, but that is one estimate that we are looking at.

I know at one of the powerplants in our upper Midwest region, the Big Stone powerplant, they say that they are looking at an additional \$3 million per month that they are sending off to the customers who are out there, as utilities providing service to consumers throughout the region.

I think we have some earlier information that Basin Electric has estimated that the impact just in South Dakota, because of increasing rail costs, if they continue, that they are looking at \$7.7 million just within our State of South Dakota. Of course, they operate through a much larger region, including Montana and Wyoming.

Senator THOMAS. Finally, we talked about the 150 miles, roughly, down to the Laramie River Station from the mines and the shortage there. That is not a rail line that is overpopulated. What is the shortage? Is it a matter of cars and facilities? And the companies are willing to help do that. Why is there a shortage on that kind of expanse of railroad?

Mr. HAMBERGER. Senator, I do not have that. If I could get that for you for the record.

What I would like to say is that it is my understanding that of the three basin stations that use coal, they all exceeded their previous record in 2005 in kilowatt hour production. Two of the three units at Laramie I understand last year exceeded their record.

But more importantly, I understand that BNSF has invited the entire board of Basin Electric down to Fort Worth to sit down and talk about what the issues are, how working together they can improve. So I do not know what caused—

Senator THOMAS. I understand, if you are on the UP from the west coast to Omaha, why there is lots of competition. But this particular little—besides, they did their new contracts and they doubled over what they were in the past in the price. So it is interesting.

Senator, do you have some questions?

Senator BURNS. Well, I just got a couple questions.

Senator THOMAS. Will you close the committee?

Senator BURNS [presiding]. I will close it. I tell you, I am running between here and a broadband discussion down on communications, and I am not making very good headway on either one of them. If I could move coal by broadband, by God, I would do it.

[Laughter.]

Senator BURNS. We could merge these two industries.

We have people that it is their business to watch railroads work, Mr. Hamberger and all of you here, and their operations. The best I could see most of them were operating around a 65 percent efficiency. I know in the State of Montana, we have got a couple areas up there. You see trains on the side all the time and sort of a traffic jam.

I think that the Senator from Wyoming makes a good point. When you are only moving 175 miles, that does not sound like that should be a great distance to be moving the coal.

Yet, the railroads are coming and they are asking Congress for the 25 percent tax credit for capital investment. I would assume that is mostly in roadbed and infrastructure on the roadbed, but not in rolling stock. Is that correct?

Mr. HAMBERGER. It does not include cars. It does include locomotives.

Senator BURNS. When I look at that and then I look at the increased rate that these gentlemen are concerned about and then you say, well, we have captive shippers. Some people have less choices, you are looking at one that has really got less. In fact, I am down to one.

I noticed even though the coal production, the loadings, and the moving went up on the Wyoming side, but they did not in Montana. In other words, all of our Powder River Basin went up. Wyoming went up increasingly, but not in the State of Montana. Now, some of that, I would imagine, is partly our State's fault, but I would like to find out where that problem is and correct it, if I can. We not only have this in Montana, but we also have in other areas too that we are going to discuss at a later date.

But right now, I am kind of concerned about the numbers come up—and rail speeds. People test how fast you are moving a train. Our speeds continue to drop just a little bit, but it doesn't take much. It only takes 5 miles an hour. When that ripple effect goes through the industry, you have really impacted the ability to deliver and deliver on time.

If the big four could come forward and sit down at a table and work out some of these difficulties that we have, even under a captive situation—but you know, some of these are not just captive situations. It is just being sometimes, I think, bullheaded. But how we streamline the STB and how we get at least a seat at a table to discuss the difficulties we have and then work together to resolve them.

I do not like the idea of reregulating or taking a step back into reregulation. I think that is going back just exactly the wrong way. But on the other hand, then we have to find some way to resolve our problems. I am dedicated to do that.

I have all your testimony here and I will probably read more about it. I would keep our communications lines open because right now you have some people out here that feel like that they are subject to some unfairness. I am one that said the marketplace should set the rate, not the monopolies. I do not think they sent us up here to oversee a monopoly unless there is regulation that goes with it. I do not want to go back to that kind of a situation. I am confident we can work it out as an industry can.

But if we are going to talk about energy policy that says we are going to provide the American people with enough electricity or electrical power in a reliable way, then we are all in this game together, and if we are not together, then Congress in their wisdom or lack of wisdom will find a way to solve the problem. I for one do not like that idea, but on the other hand, I have got an obligation not only to my electrical power users, but I have got an obligation to my coal producers, and I have got an obligation to their industry and to each State that is involved here. That is my message here today.

We all get tons of stuff to read, but I would just like for each one of you to comment on that. Is there a place, is there an area where we can say streamline STB so that we can resolve some of these problems in a timely manner and in a manner that it does not cost you an arm and a leg? Is that a possibility? Anybody can comment on that that wants to.

Mr. WILKS. Yes, Senator. I think that from my standpoint, there is that possibility. Obviously, the Surface Transportation Board is the one that seems like the logical entity to ask to do that. But in the current mode and with their charter, they are not operating that way, and I think encouragement for them to do so would be very beneficial for all of us, the railroads, as well as the shippers.

Mr. SAHR. Senator, I would agree with your thoughts on this. I think the STB could do more.

And I think we need to look and make sure that the railroads are prioritizing in making these shipments a priority within their systems.

I think also the ability of utilities to successfully bring cases—I think the standard of proof is very high. I think at least the allegations that I have heard from some of these utilities about where their costs are coming in, we are talking about multiples above what the costs in their minds should be. But one of the problems that they face is that to bring a case takes years, it takes millions of dollars, and the burden is so high that you can go out there and prove they are overcharging by 25, 50 percent, or more and not have the opportunity to go forward with a successful case.

The overall energy mix I think is important because if we are going to get new plants on line, if we are going to utilize these vast coal resources that we have, the opportunity to do that is now because these plants are in the works. They are about 10 years out typically from start to finish. Now is the time to set the stage to get the opportunity to use more of our coal resources, and part of it is going to be dealing with the infrastructure of delivering the coal to these new plants. I think it is a great opportunity to take action now, look at the STB, look at the entire process so that we can continue to move towards a smarter energy mix going into the future.

Senator BURNS. What concerns me more than anything else a while ago with the man from the EIA was the increase in dollars per million Btu in a 1-year jump. That was almost a 25 percent jump. That concerns me, and I think it probably concerns Mr. Wilks and Mr. McLennan and Mr. Jackson, if you know what I mean.

I am sorry. I probably cut somebody off there. Sorry.

Mr. HAMBERGER. I was just going to say, Senator, on one level, certainly not on everything he said, but I wish Commissioner Sahr was working for our industry because we have got to get the word out to the American people what he just said, that coal has to be not just a part but the predominant part of our energy grid going forward. Unfortunately, what we see are many utilities deciding that a CO₂ cap and trade regime is a good thing. Now, when you take a look at that, that is not going to spur greater use of coal. In fact, we need to look at the entire panoply of issues here, not just one little piece of rail transportation. But there are a lot of things that come into play here.

I would like to just say that I welcome whatever role you can play. We do want to sit down with our customers. We do sit down with the EEI at the CEO level, the National Mining Association, and I know there is a lot of bilateral discussions going on between railroads and the utilities, and as far as policy goes, we do support, as you know and as I have testified in other forums, some streamlining of the process at the STB.

Senator BURNS. Yes, sir.

Mr. MCLENNAN. I was going to say, Senator, you asked the question can we, I do not know that that is the right question. I think the answer has to be there is not any other choice. If you look at like our case where we are putting, for the most part, the future of our entire region in coal-based electricity as you go forward, a \$5 billion investment, we have to find a way. There is not a "can we." It is a "we must" to be able to go forward and have affordable, reliable electricity as we move into the next set of coal generation moving forward.

Senator BURNS. Well, we are going to continue to move forward with our inquiry here in the Congress and we are going to move forward with the proposed legislation. It may change. It may evolve or whatever, but I think maybe that probably does as much as getting us together as final passage. Who knows? But it is nice to have that hammer.

But I think the dialogue has got to continue because I do not think the ratepayers want it. When you boil it all down, whenever they hit that switch on that wall, they want something to happen, and they get cranky when it does not. That is basically where we are I think.

We already have forecasts of brownouts for this summer in our capacity. Some of that is coal delivery, Mr. Hamberger. They are in serious trouble about getting delivery on the product that they have got to turn into electricity.

So we are going to continue to do this. We are going to have a hearing in Commerce and continue this to take a look on the effects of only four railroads in this whole country, that in some cases have a tendency to cause some heartburn and some problems. I think we, as a Congress, are duty-bound to look into that.

I thank you very much for coming today. I appreciate your testimony, and thank you very much.

The meeting is adjourned.

[Whereupon, at 12:27 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSES OF HOWARD GRUENSPECHT TO QUESTIONS FROM SENATOR BURNS

Question 1. In your testimony, you note that coal stockpiles are up this year over last year, which is a good thing. But stockpiles in 2005 were at historically low levels and I understand that there were delivery problems with respect to eastern coal in 2004, so stockpiles were down in that year as well. We are going to hear a little later from three utilities with current stockpile problems and know from media reports that there are a number of others in the same situation. Do you look behind your overall figures to identify these types of problems? Should we be concerned when utilities report to us that they can't get enough coal delivered by rail?

Answer. Each month we estimate days of burn at large coal plants (those with a generating capacity of 250 megawatts or greater) based on reported stocks and historical fuel consumption patterns. The analysis is based on routine survey responses from coal plant operators. These survey responses are typically received and ready for analysis about two months after the end of the reporting month.

EIA estimates days of burn as part of its data quality review process and to identify plants with possible coal supply problems. The days of burn estimates are examined in terms of the current value, the change from the prior month, and the change from the same month of the prior year. Plants reporting low numbers of days of burn, and, in some cases, plants which show large, abrupt drops in days of burn, are tagged for further review. In some cases the plant is contacted for an explanation. In recent months these explanations have included rail delivery problems, although other factors may also be at work.

Plants faced with low coal stockpiles will take steps to conserve coal to avoid having to shut the plant altogether. These steps can include delivering domestic coal by alternate means (such as truck), importing coal, burning petroleum coke (a solid waste residue produced by some oil refineries) as a supplemental fuel, or making less use of the coal plant and running other generating units or buying power to make up the difference. Because plant operators take these steps, a coal plant is unlikely to shut down due to a supply shortage. However, these alternatives almost universally increase costs compared to normal operation of the plant, especially if coal-fired generation is replaced by generation from natural gas-fired plants.

Question 2. We are going to receive testimony today about utilities that are unable to get sufficient delivery of Powder River Basin coal and are importing coal from other countries. In some cases, the price paid for that coal far exceeds domestic prices, but the reliability of supply drives decision-making—since natural gas is even more expensive. The bottom line is that the price of electricity goes up to consumers.

To what extent should we be concerned, from a domestic energy production and security standpoint, about an increased need for imports due to delivery problems, not domestic supply problems?

Answer. The United States does not face a security problem due to coal imports nor is it likely to incur one in the foreseeable future. The United States remains a net exporter of coal, and coal imports account for a small fraction of domestic consumption. While the U.S. has declined in importance as a coal exporter, due to competition from several other countries, the U.S. has huge coal reserves that will remain an important energy security asset. They will become even more important when advanced coal gasification technologies are used to produce electricity and transport fuels.

RESPONSES OF ROBERT SAHR TO QUESTIONS FROM SENATOR DOMENICI

Question 1. As you know, NERC recently released its Summer 2006 assessment and while the Powder River Basin has been placed on a "Watch List," NERC is not anticipating coal reliability problems this summer. However, NERC did caution that some utilities will need to conserve their coal supplies—by purchasing electricity or using alternative fuels—to ensure peak power.

What are your thoughts on NERC's assessment?

Answer. NERC's assessment appears generally accurate. Our commission held a public meeting this spring with our utilities and other South Dakota coal users along with representatives of Burlington Northern Santa Fe Railway. The meeting gave us a good understanding of challenges faced by both.

Our primary concern is dwindling inventory at the Big Stone generation plant, a major South Dakota energy source. There had been a reduction in operating hours which led to significant purchased power costs. It appears the inventory has been restored to more normal levels. While we are optimistic with this development, we must be concerned about the possibility of the inventory shortage recurring.

While I reference my jurisdiction area, these circumstances are likely a best case scenario, and other states and coal-based electric generation facilities are in a less favorable position.

Question 2. You all testified on the status of coal stockpiles. Didn't utilities willingly cut stockpiles in order to save costs?

Answer. The South Dakota Public Utilities Commission has historically allowed plant operators to determine the appropriate level of coal inventories. The Big Stone plant has been in operation for more than 30 years, and its operator—Otter Tail Power Company—has managed the plant operations well.

The plant has generally operated with a minimum of no less than 35 days. Although Otter Tail may from time-to-time consider other amounts appropriate, with cost being one factor, there was never any intent to shave inventory levels to a point that could jeopardize operability of the plant. It would be incorrect to consider Otter Tail's attempt to operate cost effectively as a cause leading to reduced plant operations. Thirty-five days is a substantial cushion by any measure.

Again, I don't know each case-by-case situation for all plants across the nation, but I strongly suspect what I've related is typical across the industry.

Question 2a. If you had not done so last summer, would you have had enough supplies on hand rendering expensive replacement energy unnecessary?

Answer. As discussed in the answer above, this question is not applicable.

Question 2b. FERC recently stated that coal stocks have rebounded and are now above last year's levels. How do you respond to these various arguments and to FERC's assessment?

Answer. Shortages are site specific. The aggregate supply could be above average even though some locations are facing severe shortage because of specific bottlenecks. The aggregate FERC measurement may show adequate supply even though specific plants are suffering through shortage. And to be specific to South Dakota, our small numbers likely have a minimal effect on FERC's averages; FERC's averages may fail to reflect our operating challenges.

One should also note that many plants are mine mouth—located at the site of the coal mine—which means fuel stocks for those would automatically be sufficient, and rail transportation is not of consequence. Again, FERC's aggregate measurement of sufficiency provides little useful information when considering the recent transportation challenges faced by generation plants distant from the fuel source.

Further, not all plants which are rail-dependent are suffering from the rail congestion problems of the Powder River Basin, and additional congestion along the rail route to the generation plant. I suspect the same holds true with the Illinois Basin and portions of the coal-producing Appalachian region.

Question 3. The Railroads are seeking a 25% investment tax credit for capacity additions. Would this help to secure reliable deliveries of coal necessary for electrical production?

Answer. There are many factors affecting reliable delivery. Our spring meeting would seem to lead one to the conclusion that the primary issues facing rail expansion are design engineering lead time, construction labor availability, construction materials availability, and general issues common to large construction projects of the transportation industry. BNSF Railway representatives noted the railroad is trying to respond as quickly as it can to the congestion problems, noting the record amounts of capital being spent on upgrades, but the expansion process is faced with logistical limits as noted above.

It appears the relatively small amounts of capital spent earlier in the decade, apparently based on forecasts of limited usage growth, put the rail line in a massive

catch-up mode, but the capital exists to get the job done, albeit over a period of several years. In fact, our utilities have experienced significant recent rate increases that many believe unjustified based on costs. While we did not participate in the rate setting process, nor do we have detailed knowledge of the various rail lines' financial situation, it does not appear that money is the primary issue leading to insufficient rail capacity.

It follows that while it may be questionable that such a credit is necessary, we are not in a position to make a definitive statement other than we don't believe any credit would necessarily hasten any congestion relief.

In fact, if a credit would lower industry risk, and thus necessary rates of return, perhaps such a credit could provide partial relief as a reduction to rates, partially offsetting significant rate increases.

There is little doubt the lack of competition plays a role in capital deployment and willingness to assume various types of risk. There seems to be little need in many circumstances for the rail industry to assume a competition-motivated risk and capital deployment strategy.

Question 3a. Are there conditions that should be placed on investments by the railroads?

Answer. If the rail lines gained a significant tax break with no establishment of necessity, and with further consideration of their status as an unregulated service provider with material monopoly power, yes, there should be conditions. Those conditions should reflect the concerns of captive shippers, with special regard to those who provide basic necessities for both residential and business customers.

Question 4. Reduced coal deliveries means utilities must replace that lost power with more expensive gas-fired production or market purchases. Are the state PUCs allowing the increased costs to be passed on to the end customer?

Answer. South Dakota allows the increased costs to be passed through to utility ratepayers. Even if we did not, the effect would still ultimately be borne by ratepayers in one form or another. Any circumstance that negatively affects utilities will negatively affect the utilities' customers in one form or another.

In states where utilities are still regulated under the old regulatory model, most have similar fuel clauses. Each utility may have a different wrinkle or two with their effective fuel clause, but in general higher fuel and purchased power costs are passed through in some fashion to customers. Many states have deregulated sales to the end user, and rely on market forces and real-time pricing. I don't have detailed information, but those costs generally are covered by customers as well.

Question 4a. If coal delivery problems persist, with this cost pass-through also continue?

Answer. Yes.

Question 5. Will these delivery problems impact the future development of coal-fired plants in your state?

Answer. In fact, we are currently in the process of considering an application for another plant at the same site as Big Stone, and there has been mention of still another plant sited in South Dakota that would need rail service. Adequate rail service is critical for economic operation of any base-load electric generation plant. Coal delivery problems are therefore a key consideration.

Question 6. How does the STB supervision process of the railroads compare with the supervision provided by FERC and the state PUCs over utilities?

Answer. We have limited interaction with the STB, so any opinion is not based on in-depth understanding. Certainly the legal status of railroads dramatically differs from electric utilities, and it follows the types and extent of the STB's authority compared to the states' regulation would as well. The railroads appear to be effectively operating as unregulated monopolies as intended by federal law. On the other hand, states have considerable authority to regulate rates and service quality of monopoly-franchised utilities. If the state had deregulated utility service, one can be assured that control still exists. Either adequate competition exists to order the market, or the regulatory agency will assume whatever role is necessary to assure reasonable rates and adequate service.

Question 6a. Is the STB even doing its job? Does it need more authority from Congress?

Answer. We can understand some of the issues faced by the STB with regard to regulating pricing and service-related issues. There appears to be a very limited scope of jurisdiction as intended by law. It is difficult to affix blame to the STB given that stated above, but there does appear to be an opportunity for the STB to improve the quality and fairness of both rate and service quality oversight. There does appear to be significant pricing and service-related rail issues that are not fully addressed by current regulation.

It can be argued that Congress decreed a lighter regulatory touch when it passed the Staggers Rail Act more than a quarter-century ago. It seems the best approach is for Congress to once again address rail industry problems, making clear intent to improve both rates and services oversight given the lack of market competition and effective regulatory oversight in a vital industry.

Question 7. NARUC recently passed a Resolution calling for Congressional action in this area. Please elaborate on the Congressional action NARUC believes is necessary.

Answer. The answers given above address this question with a bit more specificity than the resolution. NARUC's resolution clearly expresses what it believes is' necessary to remove the dysfunctional aspects of the rail industry.

The fundamental problem is that competition did not develop as Congress planned in a basic and very necessary industry that has a significant public interest role. There is no argument about how our businesses, our economy, and our daily lives rely on an adequate and affordable supply of electricity. The rail industry is in a position to significantly harm all that depend on a reasonably-priced and adequate level of rail service. Effectively included among these stakeholders is the electric industry, which automatically requires one to include our nation's economy being captive as well.

There are only three ways to resolve this problem: 1) more effective Surface Transportation Board oversight; 2) timely, direct, and sufficient action by Congress to mandate effective regulatory oversight absent development of a sufficiently competitive market; and 3) a functioning competitive market.

It has been 26 years since passage of the Staggers Act and competition hoped-for then has not only failed to materialize, but the main industry players have shrunk to four, and for the most part no more than two serve in any one specific area. Many customers must rely on one and only one railroad.

While most prefer to have competition ordering the market, it is not reasonable to expect that to happen any time soon, if ever, given the lack of success of the Staggers Act. We certainly can't afford to continue with the illusion of competition where none exists given the critical nature of the issue.

The Surface Transportation Board (STB) has been the agency responsible for rail oversight. There is little doubt that the oversight has failed to adequately respond to industry problems. We don't wish to argue whether this is a function of inadequate law or STB action. We don't have time, and given the ample record it appears that an inadequacy exists which only Congress can correct in a timely, adequate, and final manner.

RESPONSES OF ROBERT SAHR TO QUESTIONS FROM SENATOR BURNS

Question 1. As we talk about domestic supplies for electric generation, it is important to remember that we just recently enacted an Energy Bill that focused heavily on reliability. This Congress, led by this Committee, made it clear that we believe utilities have a public obligation to provide reliable and affordable electricity to consumers. Coal delivery issues are central to achieving that goal. If a utility contracts for delivery of coal, but that shipment doesn't arrive, it is the utility that is held accountable. The utility will be expected to find other ways to provide service to its customers.

Given that utilities have a duty to serve, to what extent do you believe railroads have an obligation to serve as well?

Answer. Absolutely. The provision of electricity is a critical component of our economy; our national security; public health, safety and welfare; and generally every aspect of our daily lives. The public interest considerations are almost beyond description. There is little need to explain why provision of reasonably priced and adequate rail service is critical to our national interest. This is no secret to any rail operator or to anyone with ties to the rail industry.

Question 1a. How should Congress consider the reasonableness of railroad decisions, in light of the expectations on utilities to provide reliable, affordable electricity?

Answer. The question needs to include that both industries generally operate outside of competitive, market-ordering forces, but that one—electricity—is effectively regulated while the other—rail service—is not. It is also interesting to note that electric utilities serve thousands, even millions of customers who in the aggregate become a powerful public voice. Railroads relatively operate out of the public eye, with just the utility as the customer. Ultimately the utilities and the utility regulatory commissions must bear the brunt of the effect of rail problems, but have little recourse to correct those problems.

Those problems appear as diminished electric service and/or higher rates to electricity users. There seems to be no way to evaluate reasonableness of rail decisions without placing significant, or perhaps the majority of the weight on how the decision affects the interests of electricity users.

Question 2. All indications are that demand for electric generation will continue to rise. In Montana, a group of folks are working to bring new generation on-line, and one of the biggest factors in their decision-making is the availability of rail for coal delivery. This company has been told by the railroad that its rate for coal shipments will be based not on what it costs the railroad to move the coal and the reasonable profit the railroad expects to make, but on what the delivered price of natural gas would be to the utility. This price, of course, has nothing to do with the cost of coal deliveries, and seems to me is only raised because of the total pricing power of the railroad monopoly that the utility must rely on to deliver its coal. That reality is affecting the ability of this company to bring new generation on-line—generation which would create new jobs and bring affordable, reliable electricity to Montana.

Do utilities faced with railroad monopoly power have sufficient bargaining power with the railroads to ensure that ratepayers aren't harmed by artificially high delivery costs?

Answer. The answer is no. There are numerous examples which can be offered by utilities that chose to first negotiate with the railroads, and lacking sufficient response, then chose to take the case before the Surface Transportation Board. It is an incredibly high cost, time-consuming, and ultimately frustrating experience. Bottom line, there is no bargaining power because there is no cost-effective substitute for coal, for rail service, or an effective regulatory option when an existing, necessary, critically needed, and very expensive electric generation plant faces a rate increase. It often appears to be a classic case of abuse of monopoly power.

Question 2a. Are rail issues constraining the ability of the electricity industry to expand generation?

Answer. That's not clear. Before the plant is constructed there is an option to locate the plant at mine-mouth. That may be impractical however, which could lead a utility to move to an alternate option such as high-priced natural gas generation if rail issues are of concern. One could then argue that generation was constructed even though the fueling source was not the optimal choice. Perhaps the better question is whether rail issues lead to sub-optimal fueling choices. I don't have that answer. Even so, it is reasonable to expect that rail service is an important variable in the decision making process.

Question 3. I am concerned that even if all the rail capacity issues were addressed and coal were moving fluidly around the country, there would still be an issue with rates and service in captive rail markets.

From an industry perspective—either the utility or railroad industry—do you believe that consumer electricity prices in captive markets are higher than they would be in competitive markets, due to the pricing power of a monopoly railroad—an ability to impose rates that may not be high enough to cause a utility to switch to trucking coal or using natural gas, but still higher than consumers would be expected to bear if coal moved to the generator under competitive transportation market conditions?

Answer. Yes. For the answer to be otherwise, one must assume that trucking is a reasonable substitute for rail—which it is not—and that natural gas is a reasonable substitute for coal. There is little doubt that fuel costs are much higher with natural gas-fired generation than with coal, and that they are not good substitutes.

Coal transportation for electricity generation is a service operating in a captive market. Further, there is no substitute for electricity; electricity is critical in all manner of the public interests; and electricity cannot be stored—it is simultaneously created and used. There is no inventory of electricity. Power plants cannot be moved once constructed like an RV or a mobile home. All of the above define a market participant that is as easily captive as one could imagine, a market participant extremely susceptible to monopoly abuse.

Question 3a. If so, are there ways that the private sector and Congress can work together to expand competition in the rail industry in a manner that would benefit consumers?

Answer. After 26 years of the Staggers Act we've witnessed an industry that has actually consolidated within a competitive reform framework. When infrastructure is extremely expensive and difficult to construct, and the market is geographically dispersed, one could argue the regulated monopoly model is superior for industry growth and protection of the public interest. While I hesitate to make that judgment, I also believe we have an overriding responsibility to protect the public's in-

terest. We need a model that guarantees success. We know that is not the current model.

RESPONSES OF STEVEN JACKSON TO QUESTIONS FROM SENATOR DOMENICI

Question 1. As you know, NERC recently released its Summer 2006 assessment and while the Powder River Basin has been placed on a "Watch List," NERC is not anticipating coal reliability problems this summer. However, NERC did caution that some utilities will need to conserve their coal supplies—by purchasing electricity or using alternative fuels—to ensure peak power.

What are your thoughts on NERC's assessment?

Answer. The situation with coal inventories has improved as depicted by the NERC assessment. It is important to understand that much of the improvement is based on the action of utilities such as reduction of unit output through planned maintenance outages and constraints on unit operation along with imports of coal. There remains a risk of supply interruptions due to the continued increasing demands on the railroads. Our experience suggests that the supply chain is very fragile and any event weather related or otherwise that disrupts this supply line could quickly cause a major reduction in supply and inventory levels during the time of greatest needs and highest replacement costs. Unless something catastrophic occurs, there should not be a supply interruption of electricity; however, our customers have already paid higher prices for electricity due to shortages of delivered domestic coal and could be forced to pay higher prices in the future as we replace undelivered coal with higher priced alternative fuels.

Question 2. You all testified on the status of coal stockpiles. Didn't utilities willingly cut stockpiles in order to save costs? If you had not done so last summer, would you have had enough supplies on hand rendering expensive replacement energy unnecessary?

FERC recently stated that coal stocks have rebounded and are now above last year's levels. How do you respond to these various arguments and to FERC's assessment?

Answer. The allegation by the railroad industry that utilities are suffering coal supply problems because we cut our stockpiles makes it sound like we have adopted a "just in time" delivery policy which is unfair to the railroads. That is simply not true. We have a target of 45 days of coal supply "on the ground" at our plants—on the theory that this is a sufficient supply to accommodate any foreseeable rail delivery problems or other supply interruptions. We must maintain sufficient coal stockpiles to support ongoing unit operations and also to sustain operations during foreseeable disruptions in fuel deliveries. MEAG Power stockpile levels at Plant Scherer reached forty-two days in 2004 prior to the onset of recent railroad delivery issues. At the time, this level of inventory had provided enough buffer to ensure operations during any supply interruptions that had occurred. If rail delivery had remained consistent with prior experience, MEAG Power should have been able to maintain adequate inventory levels into the summer 2005 operating season. Inventory levels do vary over the year based on unit output and generally reach the lowest levels after the summer season. Reduced output and outages planned for routine maintenance during the fall and spring seasons typically provide opportunities to increase levels during these periods. The ability to manage the inventory levels requires reliable coal delivery from the railroads and also is essential in planning for railcars and fuel purchase as part of this inventory management process. The railroad supply infrastructure must be robust in order to prevent long term supply problems that cannot be either foreseen or cured in a reasonable timeframe. As mentioned in the response to question 1, inventory levels have improved recently, primarily due to our own efforts in importing foreign coal, limiting plant output and taking plants out of service for routine scheduled maintenance prior to the summer cooling season. Reliable and consistent delivery of fuel supplies is necessary to make sure that coal inventory levels are managed and that electric supply is reliable.

Question 3. You testify that Powder River Basin Coal is delivered to your facilities in thirty-seven sets of privately owned 124 car unit trains that are constantly in cycle between your plants and the Powder River mines. Does MEAG own all of those train sets? How much have you invested in rolling stock to bring coal to your plants?

Answer. MEAG Power has 15.1% of the total ownership in Plant Scherer. Our ownership in the railcar fleet is proportional to our plant ownership. MEAG Power owns 530 railcars or 4.25 train sets for the PRB service. MEAG Power has invested 30.2 million dollars in our ownership in the unit trains. An additional \$1.1 million

per year is spent on 8 sets of leased cars that have been placed into service to help improve delivery performance over the past two years.

Question 4. How much has MEAG power spent recently on purchased power, or power generated from other sources such as natural gas because of uncertainties associated with rail delivery of coal? How are such costs passed through to utility customers? And who decides how those costs are addressed within your system?

Answer. The impacts of lost generation and higher replacement fuel cost, such as purchases of Indonesian coal or use of natural gas, are estimated to have cost our member communities \$28 million. Since MEAG Power is a not for profit entity, these costs are passed directly to our members through the variable cost billings. The management of costs and billings for our members is under the direction of the MEAG Power Board of Directors comprised of representatives from a number of our member communities. Our Board, who either are elected officials or are management officials hired by elected officials, are particularly attentive to the cost of the electricity produced by MEAG.

Question 5. You reference the 2006 NARUC resolution calling for mandatory reliability standards for railroads, I assume because you are required to meet reliability standards for your electricity customers. How do you think such a requirement might be designed that, at the same time, protects the rights of other shippers to access to the rail network?

Answer. Where most monopoly services are regulated, the regulatory agency oversees both price and service. In the case of the Surface Transportation Board, the Board entertains rate complaint cases brought by captive rail customers, but does not regulate the service that those customers will receive for that price. We think it would be a fairly easy clarification or expansion of the current authorities of the STB to direct the Board to ensure that rail customers paying captive rail rates receive the service that those high rates should purchase. This should not affect the rights of other rail customers to have access to the rail network and, perhaps, would even help those rail customers by expanding the capacity of the rail system.

Question 6. Are your shortages due to problems in the Powder River Basin, problems on the Norfolk Southern Line or both?

Answer. The fuel supply impacts suffered by MEAG Power are the result of problems with both the Burlington Northern Sante Fe (BNSF) and the Norfolk Southern (NS) railroads that are involved in the delivery of coal from the Powder River Basin to Plant Scherer. The fragile nature of the rail infrastructure and the impacts of additional demands apply to both the western and eastern railroads.

Question 7. Prices for diesel fuel have risen rather dramatically over the last year. Are you experiencing increasing coal costs because of fuel oil prices? How are those fuel prices passed along to you?

Answer. The increased cost of diesel fuel results in increased cost of coal supply to MEAG Power. The increased costs are reflected in per ton fuel surcharges paid under our contractual arrangements with the railroads and also through the increased cost of each ton of coal produced.

RESPONSES OF STEVEN JACKSON TO QUESTIONS FROM SENATOR BURNS

Question 1. As we talk about domestic supplies for electric generation, it is important to remember that we just recently enacted an Energy Bill that focused heavily on reliability. This Congress, led by this Committee, made it clear that we believe utilities have a public obligation to provide reliable and affordable electricity to consumers. Coal delivery issues are central to achieving that goal. If a utility contracts for delivery of coal, but that shipment doesn't arrive, it is the utility that is held accountable. The utility will be expected to find other ways to provide service to its customers.

Given that utilities have a duty to serve, to what extent do you believe railroads have an obligation to serve as well? How should Congress consider the reasonableness of railroad decisions, in light of the expectations on utilities to provide reliable, affordable electricity?

Answer. We believe that railroads have an obligation to serve that is usually referred to as a "common carrier obligation". We recognize that all rail movements are important to those involved in those movements and to the nation. However, we believe that those rail customers that are served by a single railroad and are, therefore, captive rail customers, normally pay much more for their rail service under the STB sanctioned practice of "differential pricing". Thus, we believe that captive rail customers, such as MEAG, should be protected by an enforceable obligation to serve on the part of the railroads. We believe that Congress should be very concerned that captive rail customers are subject to the highest prices on the rail system, but are not protected by an enforceable railroad obligation to serve.

Question 2. All indications are that demand for electric generation will continue to rise. In Montana, a group of folks are working to bring new generation on-line, and one of the biggest factors in their decision-making is the availability of rail for coal delivery. This company has been told by the railroad that its rate for coal shipments will be based not on what it costs the railroad to move the coal and the reasonable profit the railroad expects to make, but on what the delivered price of natural gas would be to the utility. This price, of course, has nothing to do with the cost of coal deliveries, and seems to me is only raised because of the total pricing power of the railroad monopoly that the utility must rely on to deliver its coal. That reality is affecting the ability of this company to bring new generation on-line—generation which would create new jobs and bring affordable, reliable electricity to Montana.

Do utilities faced with railroad monopoly power have sufficient bargaining power with the railroads to ensure that ratepayers aren't harmed by artificially high delivery costs?

Answer. No, even very large utility companies whose market value may be greater than the market value of the railroad in question lack the bargaining power to reach mutually acceptable arrangements with their rail carrier. That is the nature of monopoly power and the reason the "bilateral" discussions that Mr. Hamberger kept recommending do not work for rail customers subject to railroad monopoly power.

Question 2a. Are rail issues constraining the ability of the electricity industry to expand generation?

Answer. Ultimately, the utility industry cannot build coal-based generators that rely on the delivery of more coal than the railroad industry can deliver. Current rail delivery problems are the cause of much concern to utility executives that are contemplating the development of new coal-based generators.

Question 3. I am concerned that even if all the rail capacity issues were addressed and coal were moving fluidly around the country, there would still be an issue with rates and service in captive rail markets.

From an industry perspective—either the utility or railroad industry—do you believe that consumer electricity prices in captive markets are higher than they would be in competitive markets, due to the pricing power of a monopoly railroad—an ability to impose rates that may not be high enough to cause a utility to switch to trucking coal or using natural gas, but still higher than consumers would be expected to bear if coal moved to the generator under competitive transportation market conditions?

Answer. Absolutely. For us, trucking coal 2000 miles from the Powder River Basin or even from the Port of Charleston, South Carolina to our Georgia facilities is completely impractical. The delivered cost of our fuel, which includes the rail delivery cost, is passed directly through to our customers on their electricity bills. Thus, high captive rail rates increase the cost of electricity to our customers.

Question 3a. If so, are there ways that the private sector and Congress can work together to expand competition in the rail industry in a manner that would benefit consumers?

Answer. As long as the railroad industry is exempt from the antitrust laws of the nation and protected from competition by the Surface Transportation Board, there is very little that private sector companies can do to increase competition. Congress needs to remove the railroad industry's exemptions from the antitrust laws and override the decisions of the STB that have allowed the railroads to block customer access to competitive rail alternatives. This will unleash the forces of competition that lead to innovation and improved economic efficiency—which we believe will result in a more sound, responsive and efficient national rail system.

RESPONSES OF ROBERT MCLENNAN TO QUESTIONS FROM SENATOR DOMENICI

Question 1. As you know, NERC recently released its Summer 2006 assessment and while the Powder River Basin has been placed on a "Watch List," NERC is not anticipating coal reliability problems this summer. However, NERC did caution that some utilities will need to conserve their coal supplies—by purchasing electricity or using alternative fuels—to ensure peak power.

What are your thoughts on NERC's assessment?

Answer. We don't know the extent of NERC's assessment as far as a listing of each utility that reported into its region but utilities typically are unwilling to report the potential for an imminent crisis due to concerns with impacts on stockholders (i.e. Wall Street) and the possible reaction from its public utility commissioners.

Members of Western Fuels Association, Inc., (Tri-State's coal supplier) who together ship over 15 million tons per year, were for the most part, only able to recover on-site coal supplies as a result of planned spring plant maintenance outages. Three of the member companies had 6 week outages during which time deliveries continued and stockpiles were rebuilt. We are not certain if this was the case with other utilities but this likely was an important component to their recent ability to recover adequate stockpile levels.

Some utilities have had to and continue to conserve coal. The price for natural gas has come down significantly since last year and if available at current prices would have less impact on ratepayers if significant coal conservation measures would be required to get through any hot spells this summer. However, as happened last year and was likely masked by the hurricanes in the gulf, the price response to significant demand by utilities for gas generation would likely be price spikes. Investor owned utilities generally have fuel and purchased power pass through agreements with their public utility commissions for direct collection of the increased fuel costs from their ratepayers. Cooperatives and municipalities have to request from their members an increase in rates to recover any increase in fuel expenses.

Question 2. You all testified on the status of coal stockpiles. Didn't utilities willingly cut stockpiles in order to save costs? If you had not done so last summer, would you have had enough supplies on hand rendering expensive replacement energy unnecessary?

Answer. The reduction by utilities in the amount of coal they carry in inventory or stockpiles occurred gradually over a large number of years. Going back to the year 1980 which Mr. Hamberger, AAR, referenced in his testimony, would be at a date when many utilities were still receiving coal by river barges and needed nearly 6 months of coal on the ground to get through the winter when the rivers were frozen over. Also in that year, Staggers Act was passed and signed into law, prior to which time, as Mr. Hamberger would agree, the nations railroads were very inefficient and less reliable than today. Therefore larger stockpiles were necessary at the plant site for generation reliability.

As more mines were placed into production in the Powder River Basin in Wyoming and the railroads became more efficient and fewer utilities were receiving coal by barge, on-site utility coal stockpiles were gradually reduced to approximately 30 to 45 day where in 1980 it may have been 60 to 90 days of coal on the ground (expect for barge served plants with winter river freeze up conditions). The improved reliability of the railroads over the last 26 years is the primary reason the utilities were comfortable with stockpile reductions and the associated reduction in costs for their customers.

Question 2a. FERC recently stated that coal stocks have rebounded and are now above last year's levels. How do you respond to these various arguments and to FERC's assessment?

Answer. The stockpiles may have improved over last year but they were at historically low levels last year due to BNSF/UPRR's service crisis in the Powder River Basin so while the statement may be true in fact, without more actual quantitative information, just having more coal on the ground than last year does not mean there was significant improvement in system reliability compared with last year.

Question 3. Over the next 15 years, Tri-State plans to build more than 1800 MW of new coal-based generation. Are you confident you'll be able to obtain timely deliveries of the coal needed to power these plants? If not, why not?

Answer. Fifteen years should provide the railroads with sufficient time to increase its coal hauling capacity on the entire railroad system. Additional baseload generation is required throughout the U.S. as a result of the projected increase in demand for electricity by electric power consumers. This additional baseload generation is best served by coal. Gas generation is better suited to peak load requirements such as summer air conditioning load. Currently there is no other more available source of coal to meet the demands for increased coal generation in the U.S., especially in the west, than Wyoming's Powder River Basin. And the only way to receive the coal except for a mine mouth plant is by rail. The industry fully expects the Nation's railroads to be capable of forecasting the expected growth demand and adding sufficient capacity to meet that demand.

Question 4. The Railroads recently announced their plans for a \$100 million project to add capacity to the Joint Line out of Powder River Basin. Will this new project address Tri-State's reliability concerns? \$100 million sounds like a lot of money, but the railroads have announced an \$8.3 billion investment for the whole system. Is this joint line project enough?

Answer. The \$100 million is a partial acceleration of planned capacity investment that will ultimately achieve a capacity out of the Powder River Basin joint line of

nearly 500 million tons. The railroads currently, at least publicly, have not completed estimates of the total investment required to achieve the 500 million ton coal hauling capacity level so we do not know if the \$100 million is significant or not and how much additional capacity it will add. We need to point out that BNSF/UPRR will transport approximately 350 million tons off the joint line in 2006. So \$100 million divided by 350 million tons is only \$0.29 per ton. Not much in relation to the total tons forecast to be hauled this year.

The \$8.3 billion dollar investment in the whole system is throughout the U.S. by all railroads. The railroads capitalize their maintenance costs which in a typical year accounts for about 80% of their capital requirements. The rest is for locomotives, railcars, terminal improvements and track capacity expansion projects. A presentation made by Matt Rose to an industry group in 2005 included information that the BNSF had spent \$0 on coal capacity in 2001 and 2002. Years 2000 and 2003 weren't by historical standards much higher; respectively they were \$70 million and \$151 million. In the five years prior to 2000 the BNSF using their own data averaged over \$300 million per year on coal capacity investment.

Question 5. You testified that utility generators dependent on Powder River Basin coal anticipate a 20 million ton shortfall, which could cost over \$2 billion in replacement energy costs. How are you planning to meet this shortfall? Since it's expected, what are the railroads doing about it?

Answer. The shortfall will be met by burning down coal stockpiles through the summer where possible, burning more natural gas for electric generation and purchasing power from other utilities that either have more coal or gas generation available or are willing to reduce their inventories of coal to a lower level than the utility purchasing the power. The railroads are betting that the utilities forecast demand for coal is inflated or that the 350 million ton figure will meet utility's 2006 burn requirements but that means no additional coal will be added to utility stockpiles. This will still result in shortfall to some individual customers as the railroads try to balance the deliveries throughout their system the best they can within the constraints of their system. Mine mechanical breakdowns, e.g. major equipment failures, and localized flooding along major rail lines as happened last year may result in localized black-outs if a utility runs out of coal before rail service returns or is unable to purchase power off the grid. The system is that tight and has to work very smoothly every day to avoid any delivery problems.

Question 6. Prices for diesel fuel have risen rather dramatically over the last year. Are you experiencing increasing coal costs because of fuel oil prices? How are those fuel prices passed along to you?

Answer. Under the terms of rail contracts the railroads do not immediately recover the increased cost of diesel fuel as the rail inflation indexes used by railroads to adjust their contract rates are published by the AAR quarterly. Most rail utility contract rates are adjusted using the AAR's Rail Cost Adjustment Factor (RCAF) which does have a fuel component that reflects the railroads cost for fuel. There may be a small delay in cost recovery so we are only dealing with at the most the short-term carrying cost of money.

Coal shippers without a contract and who are operating under a tariff are paying for fuel through a separate fuel surcharge that is in addition to the tariff. This has become standard practice for the railroads when existing contracts expire and the railroads convert the shipper to tariff based rates without any negotiations taking place between the railroad and their customers. As was testified to in an earlier STB hearing that was held specifically to review the railroads use of the fuel surcharge, many shippers and their consultants testified that they believe the railroads are significantly over collected for their actual fuels costs through the use of a fuel surcharge. As reported in recent railroad earnings reports a significant portion of the railroads increase in earnings are due to the fuel surcharges to their customers.

RESPONSES OF ROBERT MCLENNAN TO QUESTIONS FROM SENATOR BURNS

Question 1. As we talk about domestic supplies for electric generation, it is important to remember that we just recently enacted an Energy Bill that focused heavily on reliability. This Congress, led by this Committee, made it clear that we believe utilities have a public obligation to provide reliable and affordable electricity to consumers. Coal delivery issues are central to achieving that goal. If a utility contracts for delivery of coal, but that shipment doesn't arrive, it is the utility that is held accountable. The utility will be expected to find other ways to provide service to its customers.

Given that utilities have a duty to serve, to what extent do you believe railroads have an obligation to serve as well?

Answer. Railroads have a common carrier obligation under 49 U.S.C. Section 11101(a) to "provide . . . transportation or service on reasonable request." Unfortunately, by all accounts, the railroads in recent years have failed to provide reliable and timely service in transporting coal to utility power plants. Tri-State explained in its testimony the very real and significant rail service problems that the Laramie River Station (LRS), a coal-based generating station in Wyoming of which Tri-State is a 24 percent part-owner, has been recently experiencing. As explained, LRS is a baseload, demand-inelastic facility that provides demonstrably fixed and constant volumes, revenues, and resource demands upon BNSF. It is also one of BNSF shortest and most efficient movements, operating in 136-car unit trains in constant 24-hour, seven-day a week service.

Despite the profitable and efficient nature of LRS movements (and its relatively short length), coal delivery problems earlier this year resulted in BNSF failing to meet LRS's demands for service, and LRS's stockpile levels became perilously low. These serious service difficulties occurred in the face of newly imposed BNSF rail rates on the LRS service that have more than doubled since 2004. Fortunately, LRS has recently been able to replenish its stockpile levels, and BNSF has improved its performance. The stockpile levels improved mainly because the LRS was taken off-line this spring to handle a planned maintenance outage, and LRS added additional train sets into service at additional cost to our members.

Today's market environment is one characterized by carriers refusing to negotiate any meaningful service standards, and a lack of private or governmental remedies or repercussions for carriers failing to fulfill their obligation to meet the public's service needs. Tri-State is very concerned that, even if the railroads are able to solve their service problems in the short term, there will continue to be recurring railroad service lapses. These lapses will occur because of the railroads' disincentive to maintain in place adequate levels of capacity in a market environment characterized by a lack of effective competition with little effective regulatory oversight. The end loser is the electric utility customer, who will be faced to pay the extra costs associated with increased reliability and electric generation costs. Thus, we believe that this matter should be the subject of additional scrutiny by the Congress and the Committee.

Question 1a. How should Congress consider the reasonableness of railroad decisions, in light of the expectations on utilities to provide reliable, affordable electricity?

Answer. Tri-State does not believe the railroads have acted in a manner consistent with their common carrier obligation to serve. As stated in our testimony, Tri-State is obligated to provide a reliable source of electricity to meet our customer needs at the lowest possible price consistent with sound business practices. As explained, railroads have a common carrier obligation to serve, but, as stated above, the railroads have recently not been able to meet their service responsibilities. The western railroads stated that they only met approximately 80-85 percent of utility customer coal demands during 2005, and they were forced to allocate service amongst their customers. Tri-State does not have this leeway. Public utilities must meet 100 percent of customer electric demands each and every day, no matter what it costs us. This is our obligation which we fully accept and take very seriously.

In meeting our customers' electricity needs, Tri-State relies on baseload coal-generated electricity for more than 70 percent of our current electric generation output. The failure of the western rail carriers to deliver Powder River Basin (PRB) coal is costing consumers hundreds of millions, if not billions, of dollars in increased electricity costs, and the carriers' service could substantially impact prudent utility management practices. The railroads provide assurances that they will not let anyone run out of coal. However, all indications are that they have been operating under a crisis mentality, apparently attending to those customers who are in most desperate need, with no organized plan or assurances of, if, or when depleted stockpiles will be replenished and service will be returned to normal. Railroad practices of rationing service, failing to provide assurances of performance, and providing indifferent or erratic service, are in stark contrast to the public utility mode of service reliability. This is a matter of national importance.

Question 2. All indications are that demand for electric generation will continue to rise. In Montana, a group of folks are working to bring new generation on-line, and one of the biggest factors in their decision-making is the availability of rail for coal delivery. This company has been told by the railroad that its rate for coal shipments will be based not on what it costs the railroad to move the coal and the reasonable profit the railroad expects to make, but on what the delivered price of natural gas would be to the utility. This price, of course, has nothing to do with the cost of coal deliveries, and seems to me is only raised because of the total pricing power of the railroad monopoly that the utility must rely on to deliver its coal. That

reality is affecting the ability of this company to bring new generation on-line—generation which would create new jobs and bring affordable, reliable electricity to Montana.

Do utilities faced with railroad monopoly power have sufficient bargaining power with the railroads to ensure that ratepayers aren't harmed by artificially high delivery costs?

Answer. As a captive customer, and with BNSF's failure to negotiate reasonable terms for service, the only leverage available to protect the rural electric consumers LRS serves was to bring a maximum rate reasonable case at the Surface Transportation Board (STB or Board), which was done by the co-owners of LRS. That case seeks the prescription of reasonable pricing terms for LRS service and reparations. That case is ongoing, and all the evidence has been submitted, but it has recently been put on hold by the Board, while the Board sorts out whether it wants to adopt new applicable "Stand Alone Cost" rules. If adopted, these new rules may significantly impact the outcome of the case, and at a minimum, the proceedings will significantly delay final resolution of the LRS case. Regardless of the outcome of this new rulemaking, Tri-State remains very concerned about the STB's recent decisions which have not been balanced, and have resulted in hundreds of millions of dollars in additional profits for the railroads at the expense of utility ratepayers.

Tri-State is very hopeful that the Board will provide meaningful rate relief for the involved LRS service when the rate case is decided, as it is the last line of defense. However, if BNSF's pricing demands are left unchecked, and given the enormous costs of rail transportation involved, the continued performance LRS as one of the most efficient and low-cost power plants in America may be significantly threatened.

Question 2a. Are rail issues constraining the ability of the electricity industry to expand generation?

Answer. As stated in our testimony, Tri-State is planning to build more than 1800 megawatts of coal-based generation over the next 15 years. This option is consistent with utilities' historic ability to secure a reliable, and domestically abundant source of fuel at low-cost, consistent with National Energy Policy. We believe the nations railroads will ultimately provide for expansion and meet the nations coal shipper requirements, however, we remain extremely concerned about recurring railroad service problems and heightened rate demands that could impact our ability to receive a reliable and cost-effective fuel generating source.

Question 3. I am concerned that even if all the rail capacity issues were addressed and coal were moving fluidly around the country, there would still be an issue with rates and service in captive rail markets.

From an industry perspective—either the utility or railroad industry—do you believe that consumer electricity prices in captive markets are higher than they would be in competitive markets, due to the pricing power of a monopoly railroad—an ability to impose rates that may not be high enough to cause a utility to switch to trucking coal or using natural gas, but still higher than consumers would be expected to bear if coal moved to the generator under competitive transportation market conditions?

It is Tri-State's experience that the railroads have put in practice the pricing of captive traffic at a level higher than those with competition. This is evidenced in the LRS rate case, where BNSF has justified its rate increase actions by stating that its increases are commercially justified because LRS is a low cost electric generator that can afford to pay more without being forced to curtail power production. In the case, the BNSF appears to be advocating a what the traffic will bear maximum rate standard—i.e. any rate increase is permissible so long as it does not result in a reduction in shipper volume. Our lawyers advise that this standard has never been embraced in the 100+ years of rail rate regulation, as evidenced in the following Interstate Commerce Commission passage:

To make rates for transportation based solely upon the ability of the shipper to pay those rates is to make the charge for transportation depend upon the cost of production rather than upon the cost of carriage—to measure a public service by the economies practiced by the private shipper. This necessarily gives to the carrier the right to measure the amount of profit which the shipper may make and fix its rate upon the traffic managers judgment as to what profit he will be permitted. This theory entitles the railroad to enter the books of every enterprise which it serves and raise or lower rates without respect to its own earnings but solely with respect to the earnings of those whose traffic it carries. This is not regulation of railroads by the nation, but regulation of the industries and commerce of the country by its railroads.

That nothing stands in the way of extortion excepting the fair-mindedness of the railroad traffic manager is illustrated in this case . . .”³³

Tri-State is very concerned about policies that may countenance a “what the market will bear” standard of rate reasonableness on market dominant traffic, and it believes that Congress and this Committee should be concerned about this as well.

Question 3a. If so, are there ways that the private sector and Congress can work together to expand competition in the rail industry in a manner that would benefit consumers?

Answer. Basic economic principles instruct that markets work best and create value where competitors are openly and aggressively competing for business—and not where carriers are openly dictating rate and service terms.

Congress intended, with the enactment of the Staggers Rail Act of 1980 that the revenue needs of rail carriers and the need of shippers for protection against rate abuses and good service, would best be fulfilled through the promotion of railroad competition. Tri-State strongly agrees that facilitating railroad competition is the best way to achieve competitive and efficient railroad rates and service and promote the financial health of the railroad industry. However, without the presence of a fully competitive rail market with vigorous competitors, Tri-State’s ability to avoid market failures or service lapses is extremely limited. That is why effective regulation is still extremely important to protect captive customers against monopoly abuses.

RESPONSES OF EDWARD HAMBERGER TO QUESTIONS FROM SENATOR DOMENICI

Question 1. As you know, NERC recently released its Summer 2006 assessment and while the Powder River Basin has been placed on a “watch List,” NERC is not anticipating coal reliability problems this summer. However, NERC did caution that some utilities will need to conserve their coal supplies—by purchasing electricity or using alternative fuels—to ensure peak power. What are your thoughts on NERC’s assessment?

Answer. We appreciate NERC’s efforts in assessing the reliability of the North American bulk power system for the upcoming summer season, and we generally agree with NERC’s conclusions.

In reference to the nation as a whole, NERC noted that while it will be monitoring the supply of PRB coal, “Coal delivery limitations do not appear to present a reliability problem for this summer.” NERC also reported that coal supply to individual regions is not expected to be a serious issue this summer.

As I noted in my testimony, mines and railroads will likely produce and move substantially more coal in 2006 than ever before, though it may be less than what some receivers want to fully rebuild inventories. But there should be no coal shortfalls that threaten electricity reliability.

It is important to remember, of course, that a complete assessment of the reliability of coal-fired electricity generation must include an examination of actions taken (or not taken) by all elements in the coal supply and delivery chain, including coal producers, other coal transporters, and coal consumers.

Question 2. The Railroads are seeking a 25% investment tax credit for capacity additions. Would this help to secure reliable deliveries of coal necessary for electrical production? Are there conditions that should be placed on investments by the railroads?

Answer. Tax incentives would enhance railroads’ ability to serve their coal customers. For a railroad considering whether to fund a new coal infrastructure project, the incentives would effectively reduce the cost of the project and thus increase the likelihood that the project will generate the level of return needed to make it economically viable. Under these circumstances, investors would be more likely to commit capital, allowing rail investment to move toward more “aggressive” levels of investment.

Railroads oppose conditions on investments that qualify for tax incentives (other than the obvious condition that the qualifying investments must expand capacity). Railroads themselves are in the best position to know what locations on their networks are in most need of capacity expansion, and what investments are the most economically-efficient in meeting those needs. Moreover, imposing conditions on investments that mandate which customers should be given preference over others would defeat the purpose of the tax incentives, which is to make the most effective capacity-enhancements more likely, not less.

³³In re: Investigation of Advances in Rates by Carriers in Western Truck Line, Trans-Missouri and Illinois Freight Committee Territories, 20 I.C.C. 307, 350-51(1911).

Question 3. EIA indicates in its testimony that ". . . in June 2005 at the beginning of the peak summer demand season, the Union Pacific Railroad . . . incurred an average daily shortfall in PRB coal shipments of four trains per day, or about 12 percent less than it achieved prior to operational problems that began in mid-May." EIA goes on to note that in September 2005, BNSF and UP together moved 14 percent fewer trains of coal than targeted from jointly served mines—60.5 trains per day compared to a target of 70.7.

Would you explain for the Committee the measures the two railroads have taken to repair the infrastructure problems that caused the initial shortfall in deliveries; any plans to add to their ability to move more coal out of the Powder River Basin, and what, if any, efforts BNSF and UP are making to restore coal inventories to pre-curtailment levels?

Answer. While railroads faced an unusual and unique infrastructure problem in May 2005, the impact on total coal hauled was less significant than the numbers used by EIA in its testimony. The EIA numbers are National Coal Transportation Association (NCTA) nominations, which are the "best guess" of coal production and utility demand. Although the actual haul by both railroads may have been 14 percent less than the NCTA nominations, more coal tons were delivered by both BNSF and UP in 2005 than in 2004.

BNSF and UP have taken seriously their responsibility to repair, maintain, and expand capacity, not only on the Joint Line, but throughout their coal networks. When faced with the severe weather events of May 2005, specific additional engineering maintenance activities, such as track repair and ballast replacement, were quickly undertaken to restore the Joint Line infrastructure at a cost of millions of dollars. This allowed the Joint Line to resume operations quickly while maintenance and capacity expansion took place following these unusual weather events. The railroads have been aggressive in working closely with the mines and utilities to mitigate the effects of accumulated coal dust. For the sake of efficiency and velocity, it is not enough to solely rely on an accelerated maintenance schedule. After discussions with the railroads, the mines implemented new loading chute operations at the mines which modified the profile of the coal in the cars, thereby reducing the "blow-off" of coal by 30-50 percent. Further discussions are being held with the mines and utilities concerning the application of low-water topper agents, or surfactants, as an effective method of reducing coal dust. Mines and utilities regularly utilize surfactants on coal originated by Canadian and eastern railroads.

Joint Line maintenance activities for 2005 and 2006 include:

2005:	56 turnouts rehabilitated
	72 track miles of undercutting
	11 bridges rehabilitated
2006:	
	28 turnouts rehabilitated
	12 lineal miles of new rail
	91 track miles of undercutting
	76 miles of shoulder ballast cleaning
	270 miles of high speed surfacing
	550 pass miles of rail grinding
	360 days of two gangs spot surfacing tracks

The repair and maintenance activities undertaken on the Joint Line are separate from what has been and will continue to be an unprecedented expansion of the Joint Line and the entire coal network in general. Despite the setbacks caused by severe weather, Joint Line capacity improvements led to an increase in coal volume hauled in 2005 over 2004. Railroad movement of coal out of the PRB so far this year is on a pace to again increase the coal tonnage hauled in 2006 by about 10 percent, setting another record.

Since 1991, BNSF and UP have retained a third-party railway operations and transportation planning needs expert, CANAC Inc., to make recommendations for increased capacity on the Joint Line to accommodate increasing PRB coal demand. CANAC, in its role as an independent evaluator, provides analytical support to the investment decisions made by these two railroads and the PRB mines. Every rail capacity recommendation made in the 1991 and 1999 studies has been implemented. A new CANAC study which makes additional capacity recommendations will be finalized later this year. Additional railroad capital investments are already being made based on the preliminary recommendations that have been released from the new study. Over the past dozen years, many billions of dollars have been invested in coal capacity expansion. In addition to ongoing and planned expansion projects, BNSF and UP have recently announced another \$100 million investment in Joint

Line improvements that will complete the triple-trackage and begin quadruple trackage on approximately 20 miles of the Joint Line.

The PRB railroads have continued to add capacity at a rapid pace outside the PRB. For example, over the past two years BNSF has made terminal improvements and additional trackage throughout Nebraska and Missouri, and even as far away as Memphis. In 2005, BNSF took delivery of 1,300 rapid-discharge aluminum coal cars, as well as approximately 90 AC locomotives for coal service. Overall in locomotive acquisition for the past two years, BNSF purchased 200 locomotives in 2005, 125 of which were used in coal service; for 2006, 362 locomotives will be purchased with 233 used in coal service. Beyond Wyoming, UP is completing a bypass in Marysville, Kansas to move coal trains more fluidly; installing three new run-through tracks dedicated to fueling and servicing coal trains in its yard in North Platte, Nebraska; building a third mainline from the eastbound fueling/inspection tracks to the east end of North Platte, Nebraska; and adding double track the main-line between Morrison and Gasconade Junction in Missouri to facilitate the movement of coal trainloads to customers and river terminals.

The railroads also continue to improve the efficiency, velocity, and volume of their coal networks in ways beyond physical infrastructure, such as using distributed power, larger-volume coal cars, and maximizing the turn-around, or cycle time, of unit coal trains.

The railroads have worked closely with mines and utilities to help restore utility stock-piles that have been depleted for a variety of reasons, including stockpile management issues, rate of burn, and rapid switch from natural gas to PRB coal as gas prices increased, and reduced delivery during the few months of Joint Line problems last year.

For 2006, railroads remain optimistic that their record-breaking performance will continue. There is a dramatic rise in stockpiles, as reported in various trade journals. The National Electric Reliability Council in its 2006 Summer Assessment noted that it is not expecting coal delivery limitations to present any reliability problems this summer. Similarly, FERC's Summer Energy Market Assessment for 2006 concludes that coal stockpiles are well above last year's levels, and stockpiles are expected to continue to build.

Question 4. The EIA suggests that rail congestion in the East has also periodically disrupted deliveries of coal to generators. Can you describe some of those disruptions and are you able to tell the Committee how the railroads serving the East are addressing those congestion issues?

Answer. By almost any measure, railroads in the East have provided reliable, efficient, and safe service to their coal customers during a period of unparalleled demand for coal.

Today, I am aware of no coal-based electric grid reliability issues related to coal inventories at utilities served by Eastern railroads. In fact, according to published reports, coal inventories at Eastern utilities today are up significantly.

As companies that work outside in the elements, railroads are vulnerable to the weather and have experienced problems that have periodically affected operations. For example, Hurricane Katrina had a significant impact on eastern railroads' operations in the latter part of 2005. Approximately 100 miles of CSX's infrastructure was destroyed by the storm, effectively severing CSX's route to and from the New Orleans gateway. Among other significant damage, Katrina also washed nearly five miles of track, ties, and ballast from the Norfolk Southern trestle spanning Lake Pontchartrain. Both railroads continued service to customers outside the storm-affected area by rerouting rail traffic through alternative gateways. Rerouted traffic added volume to busy corridors and resulted in additional network congestion, which adversely affected overall train velocity and system dwell. Service to local businesses on the Gulf Coast has been restored and previously rerouted merchandise trains have returned to the New Orleans gateway.

Eastern railroads also operate through numerous densely-populated urban areas—such as New York, Baltimore, Chicago, Atlanta, Philadelphia, Indianapolis, Charleston, Richmond, Nashville, Charlotte, Louisville, and Washington, D.C.—that have grown up around the railroads, limiting economical options to expand infrastructure. Passenger rail service is also an issue. For example, CSX runs in regions with limited operating windows because of the numerous passenger services—such as Amtrak, VRE, MARC, and SEPTA—that use CSX's privately owned and maintained freight tracks. These commuter services have priority access to CSX tracks, requiring freight operations to take place during particular time slots in order to ensure that all train operational requirements are met.

Coal is important to eastern railroads, who want to haul more and look forward to increasing business with utility customers. Like their western counterparts, eastern railroads continue to invest in their infrastructure in an effort to add new capac-

ity and better serve their customers. That is why CSX is investing \$1.4 billion each of the next two years in its infrastructure, and why it periodically meets with our customers to learn of their concerns and suggestions. It's also why NS capital investment has increased by approximately 60 percent since 2003. As a result of massive and continuing investments in track, locomotives, employees, and freight cars, eastern railroads are improving fluidity and capacity for their coal traffic and setting the stage for higher coal volumes.

Question 5. EIA has testified that it expects "reliance on all types of coal to increase over time, suggesting a requirement for increased capacity in the Nation's rail transportation system." What, in general terms, must be done regarding capacity expansion to meet the demand growth for transportation of all forms of freight? How much capital does the industry expect will be needed for such capacity additions?

Answer. To be viable and effective, especially in the face of projected huge increases in freight transportation demand over the next 20 years, railroads must be able to both maintain their existing infrastructure and equipment and build the substantial new capacity that will be required to handle the additional traffic they will be called upon to haul. Thus, policymakers should take steps that assist—and refrain from taking steps that hinder—railroads in earning enough to make the investments they need to provide the current and future freight transportation capacity our nation requires.

Several things must be done to meet demand growth.

First, railroads will continue to spend huge amounts of private capital to help ensure that adequate capacity exists, but they can do so only if regulatory or legislative restraints do not hinder rail earnings. If rail earnings are restricted, rail spending on infrastructure and equipment would shrink, the industry's existing physical plant would deteriorate, needed new capacity would not be added, and rail service would become slower, less responsive, and less reliable.

Second, states and localities can help improve rail networks that generate public benefits through a more pronounced use of public-private partnerships for rail infrastructure improvement projects.

Third, policymakers should provide tax incentives for rail investments that enhance capacity. Tax incentives would help bridge the funding gap by leveraging private investment, producing substantial benefits that would far exceed the cost of the incentives. As the American Association of State Highway and Transportation Officials (AASHTO) has noted, "Relatively small public investments in the nation's freight railroads can be leveraged into relatively large benefits for the nation's highway infrastructure, highway users, and freight shippers."

Because of the uncertainties involved, it is difficult to put a precise figure on how much future capital will be needed to support a rail network with needed expanded capability, but a reasonable indication of hundreds of billions of dollars over 20 years was provided by AASHTO.

Question 6. EIA expects that the Powder River Basin mines will produce 719 million short tons of coal in 2030—298 million tons more than in 2004. How much is it likely to cost the rail industry to expand to handle such a large increase in production?

Answer. A precise answer to this question is impossible to give because of all the complexities involved, but it is safe to say that the investments involved will run into the tens of billions of dollars.

Assuming the coal business segment continues to meet the railroads' criteria for a return on invested capital, railroads, as evidenced by past performance, will continue to build infrastructure, acquire equipment, hire train crews, and develop business processes to support that demand.

That said, it is impossible to forecast the rail industry cost for expansion that far into the future, in part because it is difficult to project specifically what can or should be done to accommodate that long-range growth in a rapidly changing and dynamic environment. But, we can look at the history of PRB production and transportation to see that it has more than doubled since 1990. Railroads have made the investments during that time frame to accommodate that level of production and growth.

Looking forward, mining, transportation, and generation business process and technology changes all have the potential to dramatically alter any long-range projection of capital needs made today. For example, just using the Joint Line as a point of reference, when it was originally constructed, the 103 original route-miles cost \$120 million in 1979 dollars—the 32.5 miles of triple track on the Joint Line that is in the process of being completed today cost \$94 million.

Another example of the intangibles involved with estimating the associated cost include where the coal is to be shipped. While much of the PRB coal currently

moves to destinations east and south of Wyoming, new markets will call for investments in new areas. For instance, demand is building to move large volumes west to northern Nevada. That is a new market for PRB coal that would require substantial incremental investment in track and locomotives beyond investments on the SPRB Joint Line.

Alternatively, if the coal moves east to plants that have historically taken coal from non-PRB sources, capacity will need to be added to lines to the east or to reach river terminals for destinations that take coal by water. If it moves to eastern plants served by rail, line capacity may be required both east and west of the Mississippi River along with more equipment and crews. Even if the additional tons move to existing rail customers who are contemplating expanding or building new plants, additional line capacity will be required. Different demands will necessitate different investments, but all of this traffic, in addition to track capacity, will require hundreds of additional locomotives (which cost upwards of \$2 million apiece), terminal capacity for fueling trains, storing spare cars for customers, inspecting and repairing damaged cars, staging trains to move to mines, and shop capacity to maintain the locomotives and repair the cars.

RESPONSES OF EDWARD HAMBERGER TO QUESTIONS FROM SENATOR BURNS

Question 1. As we talk about domestic supplies for electric generation, it is important to remember that we just recently enacted an Energy Bill that focused heavily on reliability. This Congress, led by this Committee, made it clear that we believe utilities have a public obligation to provide reliable and affordable electricity to consumers. Coal delivery issues are central to achieving that goal. If a utility contracts for delivery of coal, but that shipment doesn't arrive, it is the utility that is held accountable. The utility will be expected to find other ways to provide service to its customers.

Given that utilities have a duty to serve, to what extent do you believe railroads have an obligation to serve as well? How should Congress consider the reasonableness of railroad decisions, in light of the expectations on utilities to provide reliable, affordable electricity?

Answer. For utilities, maintaining a high level of reliability in generation involves, among other things, having a series of "peaking" plants. These plants generate power when demand warrants, and sit partly or completely idle the rest of the time. The costs of peaking plants are covered by the regulated rates that utility customers pay.

The situation is very different for railroads. Railroads cannot afford to have significant amounts of spare capacity on hand "just in case" because rail shippers, including utilities, are not willing to pay for that spare capacity. Consequently, before railroads make new investments, they must be reasonably sure that long-term demand will be high enough to justify the investments. Most other private sector businesses do the same thing.

Moreover, when business is unexpectedly strong, like it was in 2005, railroads may not be able to expand capacity as quickly as they might like. Locomotives, for example, can take a year or more to be delivered following their order; new entry-level employees take six months or more to become hired, trained, and qualified.

The bottom line is that if rail shippers, including coal shippers, want new capacity, they must be willing to pay for it. Rail shippers who complain that railroads have inadequate capacity, and that railroads already make too much money and need to reduce their rates, are trying to have it both ways.

All this said, railroads have a common carrier obligation to provide service upon reasonable request by a shipper, and they work exceedingly hard to meet this obligation. Regarding coal, railroads moved more coal in 2005 than ever before, and are on pace to significantly exceed 2005's record in 2006.

Question 2. All indications are that demand for electric generation will continue to rise. In Montana, a group of folks are working to bring new generation on-line, and one of the biggest factors in their decision-making is the availability of rail for coal delivery. This company has been told by the railroad that its rate for coal shipments will be based not on what it costs the railroad to move the coal and the reasonable profit the railroad expects to make, but on what the delivered price of natural gas would be to the utility. This price, of course, has nothing to do with the cost of coal deliveries, and seems to me is only raised because of the total pricing power of the railroad monopoly that the utility must rely on to deliver its coal. That reality is affecting the ability of this company to bring new generation on-line—generation which would create new jobs and bring affordable, reliable electricity to Montana.

Do utilities faced with railroad monopoly power have sufficient bargaining power with the railroads to ensure that ratepayers aren't harmed by artificially high delivery costs? Are rail issues constraining the ability of the electricity industry to expand generation?

Answer. Thanks to railroads, U.S. coal consumers and producers have access to the most comprehensive and efficient coal transportation system in the world. Thus, rather than constraining coal-based electricity generation, railroads are a major force behind its expansion. The average decline in railroad coal rates from 1981 to 2004 (down 32 percent in nominal dollars) is in sharp contrast to average U.S. electricity rates, which rose 38 percent from 1981 to 2004 in nominal terms.

Indeed, the rail transport of coal within the U.S. has become so efficient that regional markets for geographical coal-producing regions have been eliminated in many cases.

In providing service, a railroad must balance the desires of each customer to pay the lowest possible rate with the requirement that the overall network earn enough to pay for all the things needed to keep it functioning now and into the future. Simply put, if a railroad cannot cover its costs, it cannot maintain or expand its infrastructure and provide the services upon which its customers and our nation depend.

Like most other industries, railroads price their services based on demand: shippers with the strongest demand for rail service (or, put another way, shippers who value rail service more highly) often pay more than shippers with lower demand. This is the most economically-efficient way for railroads to cover their full costs. It also benefits all shippers, because the lower prices to shippers who would otherwise not use rail generate revenue which helps support the rail network—costs that otherwise would have to be borne by customers with the strongest demand for rail transportation.

Railroads do not have a monopoly position in their role as freight transporter. There are numerous sources of competition in the coal industry alone when one considers the myriad choices of where to site a plant, the different fuels that can be used as a feedstock for electricity generation, the option of coal by wire, and the mode of transportation depending on location.

The utility plants using PRB coal that railroads serve are consistently among the low-cost electricity providers in the United States, and year after year, plants that burn PRB coal dominate the list of the low-cost steam plants in the country. These plants burn at capacity factors that are among the nation's best and result in those generators participating in wholesale power markets with significant profit margins.

Power plants that are solely served by one transportation provider are typically competitive throughout the United States. Again, looking at the 50 lowest cost U.S. steam plants, in 2005, 19 of those low-cost plants were plants served by a single railroad.

With regard to capital for coal expansion, no other coal supply source has grown like the Powder River Basin over the past 30 years and the railroads have consistently invested capital to sustain that growth. In 2005, the Joint Line suffered severe and unique weather events and coal dust accumulation that combined to significantly impact rail operations for several months. Nonetheless, coal volumes were up in 2005 over 2004. Through May of 2006, PRB tonnage exceeds that for the same time period in 2005.

The record shows that the PRB has dominated coal growth, has the nation's lowest delivered coal costs, and generating plants that burn PRB coal are among the lowest cost electricity providers in the United States. BNSF and UP will continue to make capital investments, consistent with return on investment criteria, to support continued demand for PRB coal.

BNSF and UP have demonstrated their commitment to build capacity for further growth of PRB coal. However, a legislative proposal that would provide a 25 percent tax credit for building additional capacity could expedite the capital investment projects that are necessary to accommodate the forecasted PRB growth through 2025. Enacting the tax incentive proposal would bring forward in time new capacity projects, thereby more quickly adding the fluidity and velocity required on what is already the heaviest tonnage rail line in the world.

Question 3. I am concerned that even if all the rail capacity issues were addressed and coal were moving fluidly around the country, there would still be an issue with rates and service in captive rail markets.

From an industry perspective—either the utility or railroad industry—do you believe that consumer electricity prices in captive markets are higher than they would be in competitive markets, due to the pricing power of a monopoly railroad—an ability to impose rates that may not be high enough to cause a utility to switch to trucking coal or using natural gas, but still higher than consumers would be expected

to bear if coal moved to the generator under competitive transportation market conditions?

If so, are there ways that the private sector and Congress can work together to expand competition in the rail industry in a manner that would benefit consumers?

Answer. Only by pricing in accordance with the varying demands for rail service (with appropriate regulatory protections against unreasonable rates) can railroads efficiently recover all of their costs, serve the largest number of customers, and maintain the viability of the rail system.

Of course, coal shippers are not always thrilled with the prices they are able to negotiate with railroads for coal transportation, any more than they are always happy about the prices they are able to negotiate with mines for coal supplies. Virtually every purchaser of goods or services, including railroads, would like to get a better deal than what they have from their suppliers. But there is no question that, since Staggers, the vast majority of railroad rates are market-based and driven by competition—just as Staggers intended.

Railroads disagree with the contention that service by a single railroad is equivalent to monopoly power, and that all rail shippers therefore have a right to service by more than one railroad. As a point of fact, most rail customer facilities (including coal fired power plants) are—and always have been—served by only one railroad, because the economics never justified service by more than one railroad. The market, acting through private investment and initiative, should determine which markets have sufficient demand to sustain multiple railroads and which do not. Regulatory or legislative mandates for multiple-railroad service would provide what the market has not and can not.

The rail industry is always willing to engage in constructive dialogue with their customers to achieve mutually advantageous solutions to problems.

[Responses to the following questions were not received at the time this hearing went to press:]

QUESTIONS FOR DAVID WILKS FROM SENATOR DOMENICI

Question 1. As you know, NERC recently released its Summer 2006 assessment and while the Powder River Basin has been placed on a “Watch List,” NERC is not anticipating coal reliability problems this summer. However, NERC did caution that some utilities will need to conserve their coal supplies—by purchasing electricity or using alternative fuels—to ensure peak power.

What are your thoughts on NERC’s assessment?

Question 2. You all testified on the status of coal stockpiles. Didn’t utilities willingly cut stockpiles in order to save costs? If you had not done so last summer, would you have had enough supplies on hand rendering expensive replacement energy unnecessary?

FERC recently stated that coal stocks have rebounded and are now above last year’s levels. How do you respond to these various arguments and to FERC’s assessment?

Question 3. You testified that utilities have invoked “coal conservation programs” because of rail service problems, resulting in greater reliance on natural gas. Please elaborate on these programs. Are you curtailing even though you have coal supplies on hand? In particular, what impact has this had on spot prices for coal and natural gas?

Question 4. The Railroads argue that in the last decade, utilities invested in gas-fired plants, thereby signaling a movement away from coal. As a consequence, investment in rail capacity was discouraged. Is this lack of rail capacity partly the fault of utilities? Why should the railroads have anticipated an increase in coal?

Question 5. EEI, along with a number of other entities, has asked FERC to conduct a public workshop to focus on rail delivery and reliability issues. What do you hope to accomplish in such a workshop? What can FERC really do? What about addressing these problems with the Surface Transportation Board?

Question 6. Prices for diesel fuel have risen rather dramatically over the last year. Are you experiencing increasing coal costs because of fuel oil prices? How are those fuel prices passed along to you?

QUESTIONS FOR DAVID WILKS FROM SENATOR BURNS

Question 1. As we talk about domestic supplies for electric generation, it is important to remember that we just recently enacted an Energy Bill that focused heavily on reliability. This Congress, led by this Committee, made it clear that we believe

utilities have a public obligation to provide reliable and affordable electricity to consumers. Coal delivery issues are central to achieving that goal. If a utility contracts for delivery of coal, but that shipment doesn't arrive, it is the utility that is held accountable. The utility will be expected to find other ways to provide service to its customers.

Given that utilities have a duty to serve, to what extent do you believe railroads have an obligation to serve as well? How should Congress consider the reasonableness of railroad decisions, in light of the expectations on utilities to provide reliable, affordable electricity?

Question 2. All indications are that demand for electric generation will continue to rise. In Montana, a group of folks are working to bring new generation on-line, and one of the biggest factors in their decision-making is the availability of rail for coal delivery. This company has been told by the railroad that its rate for coal shipments will be based not on what it costs the railroad to move the coal and the reasonable profit the railroad expects to make, but on what the delivered price of natural gas would be to the utility. This price, of course, has nothing to do with the cost of coal deliveries, and seems to me is only raised because of the total pricing power of the railroad monopoly that the utility must rely on to deliver its coal. That reality is affecting the ability of this company to bring new generation on-line—generation which would create new jobs and bring affordable, reliable electricity to Montana.

Do utilities faced with railroad monopoly power have sufficient bargaining power with the railroads to ensure that ratepayers aren't harmed by artificially high delivery costs?

Are rail issues constraining the ability of the electricity industry to expand generation?

Question 3. I am concerned that even if all the rail capacity issues were addressed and coal were moving fluidly around the country, there would still be an issue with rates and service in captive rail markets.

From an industry perspective—either the utility or railroad industry—do you believe that consumer electricity prices in captive markets are higher than they would be in competitive markets, due to the pricing power of a monopoly railroad—an ability to impose rates that may not be high enough to cause a utility to switch to trucking coal or using natural gas, but still higher than consumers would be expected to bear if coal moved to the generator under competitive transportation market conditions?

If so, are there ways that the private sector and Congress can work together to expand competition in the rail industry in a manner that would benefit consumers?

APPENDIX II

Additional Material Submitted for the Record

ELECTRIC POWER SUPPLY ASSOCIATION,
Washington, DC, May 24, 2006.

Hon. PETE DOMENICI,
Chairman, Senate Committee on Energy and Natural Resources, Dirksen Senate Office Building, Washington, DC.

Hon. JEFF BINGAMAN,
Ranking Member, Senate Committee on Energy and Natural Resources, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN DOMENICI AND RANKING MEMBER BINGAMAN: On behalf of the Electric Power Supply Association (EPSA), I am writing to you in regard to the May 25 Senate Energy and Natural Resources Committee hearing on reliability issues associated with coal-fired electric generating plants. We commend you for holding this timely session, and we ask that you include this letter in your hearing record.

EPSA represents a diverse cross-section of competitive power suppliers, marketers and developers. Competitive power suppliers account for nearly 40 percent of the installed generating capacity in the United States and about one-third of actual generation. These suppliers collectively operate a fleet of power plants using a diverse mix of fuels—coal, natural gas, nuclear, wind, geothermal and oil, among others. In fact, coal accounts for the largest market share among all fuels used by competitive suppliers, according to EIA data.

The nation faces an enormous challenge in the years ahead to meet the expected growing demand for electricity. Competitive power suppliers are ready, willing and able to generate electricity using the diverse mix of fuels that will continue to be required to meet demand. EPSA members are actively pursuing coal-fired power plant opportunities, including the use of new clean coal technologies based on the incentives contained in the Energy Policy Act of 2005. However, all generators will need access to a reliable and affordable fuel transportation system, including rail delivery, for both current and new plants to operate.

We are deeply concerned that railroad-related delivery problems are impacting coal-fired generators, which a number of our members own and operate. These generators provide affordable, efficient power for customers across the country and are faced with deliverability and railroad rate issues that deserve greater scrutiny by stakeholders and policymakers to identify solutions.

Our members have experienced far too many instances in which rail coal delivery has failed to fulfill power plant demand. These situations have forced generators to use and substantially deplete their on-site coal inventories. If such supply disruptions persist, the availability of a significant portion of the nation's power supply would likely suffer.

We have been made aware by our members that Class 1 railroads are currently applying a fuel charge in some form. Some of these fuel charges are included as part of an agreed upon contract to reflect recent increases in fuel costs—about which we as generators are very familiar. In other instances, however, these costs are added as a surcharge to a pre-existing tariff.

While we acknowledge that fuel prices have increased in recent years, these surcharges are added to a railroad's rate tariff, which includes a Rail Charge Adjustment Factor (RCAF). The RCAF reflects certain increased costs on a quarterly basis. A component of the increases is reserved for fuel adjustments. For those rail customers operating under a tariff that includes the RCAF, any additional fuel surcharge is simply double counting and hence, over-recovery.

The supplemental surcharge is included without any stakeholder input, much less regulatory oversight and approval. This type of surcharge puts an undue financial burden on generators that eventually gets passed on to power customers.

As you consider the matters presented to you at the May 25 hearing, we ask that you consider the concerns described above. We thank you for the opportunity to present our thoughts on these important issues and for your interest. Please do not hesitate to contact us to further discuss these important issues.

Sincerely,

JOHN E. SHEIK,
President and CEO.

AMERICAN PUBLIC POWER ASSOCIATION
Washington, DC, May 25, 2006.

Hon. PETE DOMENICI,
Chairman, Senate Energy and Natural Resources Committee, Washington, DC.

Hon. JEFF BINGAMAN,
Ranking Member, Senate Energy and Natural Resources Committee, Washington, DC.

DEAR CHAIRMAN DOMENICI AND RANKING MEMBER BINGAMAN: On behalf of the American Public Power Association (APPA), I am writing to express our strong support for the testimony provided by electric utility rail customers and Consumers United for Rail Equity at today's hearing on the outlook for growth of coal fired electric generation and whether sufficient supplies of coal will be available for such generation on a timely basis. APPA is the national service organization representing the interests of the nation's more than 2,000 state and community-owned electric utilities collectively serving over 43 million Americans.

Over the past year, many APPA members that depend on coal-fired generation have faced increased problems with coal shipping issues, including dramatic price increases for transportation during contract renewals, the elimination of long term service contracts, and rail service reductions and disruptions. These problems have resulted in extremely low reserves of coal available for generation at numerous locations. At the same time, significant increases in the cost of other fuels used for electricity generation, chiefly natural gas, have heightened the need to maintain coal as a viable, economic fuel option for electricity generation. These issues are not unique to APPA's coal-fired generation members. Roughly half of the total electricity generated in the U.S. is generated using coal and most coal-fired generators that rely on railroad transportation have encountered the same problems.

APPA and its members have been attempting to address these issues for many years, both individually and through participation in Consumers United for Rail Equity (CURE), national coalition of captive rail customers focused on congressional and administrative policies that affect the development of competition in the freight rail industry.

Recent reports from our members of acute coal shortages at power plants around the nation are of great concern to us, since the summer months of peak electricity demand are right around the corner. Some coal-fired generation facilities are dangerously close to the point of having to curtail generation operations to conserve their remaining supplies of coal. If these units are forced to curtail generation of coal-fired electricity they will have to substitute much higher priced power supplies available on the market, resulting in substantially higher prices for consumers. Just as important, curtailment will reduce the number of generation units available to support the electric grid posing potential reliability problems. In other words, serious, growing, and pervasive problems with the reliability of the nation's freight railroads is endangering the reliability of electric service. Additionally, due to higher transportation costs and unreliable rail deliveries of coal, some of our coal-fired generators have had to resort to importing international coal to ensure availability. Considering our nation's abundance of coal, this is an unfortunate effect of the coal transportation difficulties utilities in all sectors are facing today. APPA's members adopted a policy resolution in June 2005 supporting passage of legislation to address these problems. That resolution is attached for your review.

In the Energy Policy Act of 2005, Congress placed great emphasis on reliability, ordering the nation's electric industry to adhere to new mandatory reliability requirements. Congress did this even as the same legislation attempts to promote more effective competition. In electricity, Congress recognized that a decrease in economic regulation in order to promote competition also necessitated an increase in reliability regulation in order to maintain adequate service to further the national economy. The same logic applies to this situation, and we urge Congress to take immediate steps to improve the reliability of freight rail service to bring it up to acceptable standards. To this end, On May 1, 2006, APPA, the Edison Electric Institute and the National Rural Electric Cooperative Association, sent a joint letter to

the Federal Energy Regulatory Commission (FERC) requesting a meeting to discuss the possibility of the FERC holding a public workshop to focus on the railroad coal delivery challenges faced by the electric utility industry and the impact of continued coal delivery disruptions on electric reliability. A copy of the joint letter is attached. The Electric Power Supply Association submitted a similar request to the FERC.

Against this backdrop, the major railroads are launching a legislative effort to obtain a 25% federal investment tax credit and first year expensing provision for investments in railroad infrastructure. While the infrastructure and capacity of our nation's rail system is in need of improvements, Congress should not issue a blank check in the form of an investment tax credit for railroad infrastructure. Any such tax credit must be coupled with a package of much needed reliability, accountability and policy reforms, including a defined, mandatory and enforceable "obligation to serve" provided as new authority to the Surface Transportation Board to ensure reliable rail service and a provision that removes all of the railroad industry's exemptions from antitrust law. Several of the additional reforms we endorse may be found in S. 919, the Railroad Competition Act, introduced by Senators Conrad Burns (R-MT), Rockefeller (D-WV), Dorgan (D-ND), Craig (R-ID), Vitter (R-LA), Thune (R-SD), Tim Johnson (D-SD), Baucus (D-MT), and Coleman (R-MN).

On behalf of the APPA and all of our member utilities, we look forward to working with you and the entire Senate Energy and Natural Resources Committee in addressing these vital coal transportation issues affecting the electric utility industry and our nation's electric reliability.

Sincerely,

ALAN H. RICHARDSON,
President & CEO.

[Enclosures.]

RESOLUTION 05-10

Sponsors: Heartland Consumers Power District; Lincoln Electric System; Missouri River Energy Services; Municipal Energy of Nebraska; Wyoming Municipal Power Agency.

BULK COMMODITY RAIL TRANSPORTATION

A significant amount of the electricity served by public power systems is generated from coal. In addition, a substantial portion of the new generation planned to meet increasing customer needs for electricity is intended to be generated from coal. The cost of fuel at coal-fired power plants represents the second-largest expense after capital costs. Unfortunately, these costs are rising significantly because in most cases the rail transportation cost of the coal delivered to these plants is greater than the price paid at the mine for the coal itself. Over the last decade, all bulk commodity shippers have experienced unacceptable deterioration in the availability, quality and price of service provided by railroads. This is because shippers of bulk commodities, including most coal and agricultural products, are very often captive to the railroads due to a lack of economically viable transportation alternatives, and are frequently captive to a single railroad either at the point of origin or destination, or both.

NOW, THEREFORE, BE IT RESOLVED: That the American Public Power Association (APPA) urges Congress to authorize and require the Surface Transportation Board:

- To establish trackage rights—within and for an appropriate distance outside terminals and interchanges—in order to encourage rail-to-rail competition, in cases where injury to competition can be shown or where service has been denied or is materially impaired;
- To establish reciprocal switching within, and for an appropriate distance outside of, terminals in order to encourage rail-to-rail competition where injury to competition can be shown or where service has been denied or is materially impaired;
- To require railroads that hold a customer captive to provide that customer a reasonable rate for moving its traffic to a competing railroad;
- In reviewing and conditioning railroad mergers, to affirmatively promote rail-to-rail competition where practicable and when it is in the public interest, to give strong weight to matching rates produced when actual rail-to-rail competition exists;
- To require carriers to respond in a timely manner to rate requests from a shipper, and to authorize the STB to prescribe a maximum rate for a movement to

a captive shipper so that the rate prescription is available when the shipper has to move the traffic; and

- To set rail rates that provide a fair and reasonable return on investment determined by the actual costs of the railroad to provide the requested service to any shipper where meaningful competition to provide rail service does not exist. Any rates so set should be subject to judicial review to determine whether the costs upon which the rates are based are supported by evidence in the record of the proceeding before the STB.

BE IT FURTHER RESOLVED: That APPA urges that the statutory provisions that exempt railroads from the antitrust injunctive actions, as well as the judicially developed Keogh doctrine that limits antitrust damage remedies, should be repealed by Congress, and that the STB should be authorized, when petitioned, to remove provisions of agreements that prevent short-line railroads from delivering traffic to any major railroad.

As adopted June 21, 2005, by the membership of the American Public Power Association at its annual meeting in Anaheim, California.

AMERICAN PUBLIC POWER ASSOCIATION; NATIONAL RURAL ELECTRIC CO-OPERATIVE ASSOCIATION; AND EDISON ELECTRIC INSTITUTE,

May 1, 2006.

Hon. JOSEPH KELLIHER,
Chairman, FERC, Washington, DC.

Hon. NORA MEAD BROWNELL,
Commissioner, FERC, Washington, DC.

Hon. SUEDEEN G. KELLY,
Commissioner, FERC, Washington, DC.

DEAR CHAIRMAN KELLIHER, COMMISSIONER BROWNELL AND COMMISSIONER KELLY: We are writing to call to your attention, and seek your help in addressing, a problem that we believe poses a serious challenge to the overall reliability of the interstate power grid in regions of the country heavily dependent on coal-fired generation.

Each of us has received reports from our respective members with coal-fired generation regarding significant, sustained railroad coal-delivery problems. Specifically, for some coal-fired generators, rail coal delivery has not been keeping pace with coal use. Some existing on-site coal stockpiles are seriously depleted. Moreover, the problems have existed for a long time, with little, if any, improvement. We are concerned about the cost and reliability risks of operating under this reduced coal-delivery situation. A minor railroad mishap or equipment failure at a coal mine—events that would not cause any disruption in power generation when stockpiles are more robust—could have serious consequences today.

The reduced deliveries of coal are already pushing some coal-fired generators to the point of curtailing generation. The cost consequences of curtailments are obvious. If generation is curtailed, the owners of these power plants will be forced into the market in order to meet customer demand. Power purchased in the wholesale market may be more expensive than power from these coal-fired plants, pushing up rates for consumers; and power from the wholesale market is likely to be generated, at least in part, from natural gas.

In addition to increased costs for consumers and added pressures on natural gas prices and availability, we also are concerned about the adverse effect that generation curtailments could have on grid reliability. Large, base-load coal-fired power plants help support the overall reliability of the electric grid; and it is, therefore, important that these plants remain on line. As you know, grid reliability is critically important to our industry and the nation's economy.

We would appreciate the opportunity to meet with you to discuss these important matters. In particular, we would like to discuss the possibility of FERC holding a public workshop to focus on these railroad coal-delivery challenges and the impact of continued coal-delivery disruptions on electric reliability.

On behalf of our associations and our members, we appreciate the Commission's consideration of this request, and we look forward to meeting with you soon to discuss further this significant concern.

Sincerely yours,

ALAN H. RICHARDSON,
President & CEO, American Public Power Association.

GLENN ENGLISH,
Chief Executive Officer, National Rural Electric Cooperative Association.

THOMAS R. KUHN,
President, Edison Electric Institute.

ARIZONA ELECTRIC POWER COOPERATIVE, INC.,
Benson, AZ, June 6, 2006.

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Dirksen Senate Building, Washington, DC.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: Arizona Electric Power Cooperative, Inc. (AEPCO) is a generation cooperative that owns and operates the Apache Generating Station in Cochise, Arizona. This 560-megawatt facility uses both coal-fired and gas-powered generation to produce power for six distribution cooperatives, which in turn provide electricity to businesses and homes across Arizona and into small parts of southern California and New Mexico. This facility burns approximately 1.5 million tons of coal annually and is located on the Union Pacific Sunset Route in southern Arizona.

AEPCO is very concerned about the future viability of the railroads' infrastructure and their ability to continue to provide coal delivery service to the utility industry. It has been AEPCO's experience that since 1997 when the last Western railroad merger took place between the Southern Pacific Railroad and the Union Pacific Railroad, that any disruption in the railroad system can cause serious capacity constraints. AEPCO experienced serious inventory depletion problems during this service problem time period. AEPCO's utility management practices since this time have been to maintain a 40-day stockpile of coal inventory at all times. However, the more recent problems with service in the Powder River Basin, rising costs of coal and lack of available equipment to ship coal have severely impacted AEPCO's ability to maintain an adequate stockpile of coal inventory. Over the past year, the railroads have limited capacity, made declarations of force majeure, placed embargoes on new customers and restricted additional railroad equipment from being added to the system. AEPCO has had to manage its low inventory situation in crisis-mode while deferring shipments, and purchasing more expense replacement coal, while constantly on the brink of having to resort to coal conservation efforts.

AEPCO has observed in recent years how utility demand has increased, yet railroad capacity has not kept pace with that demand. AEPCO is concerned that the railroads will not have the infrastructure in the future to deliver coal to power plants. Many new coal-fired power plants are scheduled to be built in the next few years to meet the increasing demand for inexpensive energy. AEPCO is concerned that the railroads will not be able to manage this increased demand and has witnessed how any disruption to the railroad system impacts all those involved in the coal supply chain. There is already increased stress on an already constrained system that will only get worse over time if service and capacity problems are not dealt with.

AEPCO strives to provide the least cost energy to its Cooperative customers. However, AEPCO is concerned that the impact of the railroads' inability to deliver coal on a consistent and cost effective basis will be a serious economic problem for its members. AEPCO is particularly concerned about the impact of the cost of electricity to its customers if curtailments of shipments continue along with forced coal conservation efforts.

AEPCO is very concerned about how the railroads intend to manage the ongoing problem of lack of railroad infrastructure to handle the increase in coal transportation demand. With the cost of transportation service rising and reliability of service going down, AEPCO's ability to effectively plan for future coal fired electricity generation is seriously compromised. AEPCO wishes to submit this testimony in support of action by the Senate Energy and Natural Resources Committee to ad-

dress these very important economic issues for the people of the United States of America.

Sincerely,

DONALD W. KIMBALL,
EXECUTIVE VICE PRESIDENT AND CEO.

STATEMENT OF MISSOURI RIVER ENERGY SERVICES, SIOUX FALLS, SD

Missouri River Energy Services (MRES) is a not-for-profit joint-action agency serving the wholesale power supply needs of 60 municipal electric utilities located in South Dakota, North Dakota, Iowa and Minnesota. MRES commends the Committee for this important oversight hearing on the availability and deliverability of coal supplies for current and future electric generation.

Our member utilities rely on MRES for roughly half of their bulk power supply. While we have a diverse resource portfolio that includes both natural gas and wind resources, the majority of our electric energy comes from coal-fired generation. Moreover, given the growing baseload needs of our consumers, and the comparative economic and operational profiles, MRES is looking to additional coal-fired resources to meet the growing needs of our communities. In fact, we are the largest single participant in the Big Stone II plant in South Dakota that will be operational in 2011.

For a variety of reasons, much of the recent generating capacity built in the United States has been fuel with natural gas. Recent volatility in natural gas prices underscore the risks associated with the strategy. Moreover, natural gas generation—while ideal for “peaking” plants—is not as well suited for baseload generation. And our country needs additional baseload generation.

While MRES has made a significant commitment to development of additional coal-fired baseload generation, we remained very concerned about the availability of reasonably priced coal.

The problem is not the cost of coal at the mine mouth. Rather, it is the cost of delivery and the reliability of those deliveries.

CAPTIVE SHIPPERS SUFFER SPIRALING RATE INCREASES

Consolidation within the railroad industry has left many utilities—including MRES—dependent on a single railroad for delivery of coal from the coal mines to their generation plants. As a result, these “captive shippers” are forced to pay increasingly exorbitant rates for the only viable means of transportation. This problem is not unique to either coal shipments or the utility industry. Captive shippers exist in many segments of our economy including utilities, agriculture, timber, chemicals, and others. Given the Committee’s interest in the development of alternative fuels, we would note that a planned ethanol plant in Iowa was shelved because of concerns about rail delivery.

As noted above, MRES is a co-owner of the Laramie River Station (LRS) coal-fired power plant near Wheatland, Wyoming. Burlington Northern and Santa Fe Railway Company (BNSF) currently transport some 8.3 million tons of coal per year approximately 175 miles between coal mines in Wyoming’s Powder River Basin to LRS—in rail cars owned by Western Fuels (the coal supplier for LRS). A long-standing contract for that service expired in 2004, and BNSF published new “common carrier” rates for the same service that are more than double the prior rate. MRES member communities are now paying \$7 million more per year for transportation costs—and rail rates are projected to continue to spiral out of control at an estimated increased cost to LRS participants of \$1 billion over the next 20 years. MRES, our plant co-owners, and coal supplier believe that BNSF is exerting its monopoly power over LRS coal deliveries by imposing unreasonably high rates. As the attached chart illustrates, shipping costs to LRS are almost three times as high as the freight costs for competitive shipments Powder River Basin coal based on cost per ton-mile.

Western Fuels (coal supplier to LRS) and Basin Electric Power Cooperative (LRS managing owner) filed a complaint in 2004 with the Surface Transportation Board (STB) calling on the STB to reduce the rate increases being imposed by BNSF. Under its “Coal Rate Guidelines,” the STB has the authority to regulate carrier rate increases, set maximum rates, and award refunds for charges unlawfully collected by the railroads. Now the STB has placed another hurdle in front of resolving the LRS case by calling for a new rulemaking in the middle of our case. This means that after spending countless hours and \$5,000,000 on our case, the STB will be requiring the LRS owners to prepare a considerable amount of new testimony dealing with the rulemaking and then refile our case based on the newly adopted guidelines

of the STB. Naturally this is causing a delay of an STB decision on our case until sometime in 2007. Meanwhile, the LRS partners must pay the arbitrarily high rates set by BNSF subject to a refund in the future.

The cost to proceed with a case, and the STB's favorable attitude toward the rail companies, discourages captive shippers from filing with the STB. This cost, combined with the STB track record, provides little promise to captive shippers seeking an honest hearing at the STB. In addition, the STB has recently proposed changing its guidelines and applying the new rules to pending cases, which will only result in further delays and costs.

HIGHER TARIFFS DO NOT EQUAL BETTER SERVICE

With the increased tariffs charged by BNSF since September 2004, LRS owners are paying rates that are more than 400 percent higher than the direct costs being charged to other shippers. While we are paying significantly higher rates, service levels from BNSF for LRS have dropped precipitously over the last several months. Coal reserves at the LRS site have dropped to dangerously low levels that have necessitated the development of a plan to curtail the operation of the plant. At one point, on-site coal reserves had dropped to a five day supply and plant owners were hours away from curtailing operation at LRS by 20 percent (see attached chart on LRS coal inventory).^{*} That would have represented a loss of approximately 330 megawatts to the area indefinitely and placed MRES in the unenviable position of buying power in the highly volatile daily markets or operating more expensive peaking units presently owned by MRES. In either case, the costs to MRES members and their customers would be unpredictable and potentially much more expensive.

While the owners of LRS presently own three unit trains, turn-around time from BNSF has increased from 37 hours to more than 50 hours per train. This decreased performance has led the owners to consider acquisition of a fourth unit train at a cost of \$8 million with no long-term guarantee that BNSF would sufficiently schedule the additional train to improve the coal reserve pile at the plant.

LEGISLATIVE ACTION IS NEEDED

Legislative action is needed both to protect "captive shippers" and to address delivery disruptions.

The Rail Competition Act of 2005 (S. 919) and the Railroad Competition Improvement and Reauthorization Act of 2005 (H.R. 2047) would direct the STB to ensure effective competition among rail carriers, maintain reasonable rates in the absence of effective competition, and maintain effective and consistent service. The Railroad Antitrust and Competition Enhancement Act of 2005 (H.R. 3318) removes the railroad industry exemption from the nation's antitrust laws.

We also support legislative action to improve railroad accountability for service disruptions and increase enforceable rules to ensure timely delivery of coal and other goods. Just like electric utilities have a statutory "obligation to serve," so too should railroads when they are providing essential service to captive shippers.

The railroads are also seeking generous tax credits for investments in railroad infrastructure. While we support additional investments to help alleviate rail congestion, we strongly oppose these tax credits—unless the tax credits are targeted at investments in congested areas and to foster competitive rail service and the railroads are simultaneously required to address the concerns of rail customers.

We command the Committee for its attention to these matters and urge Congress to act to provide need relief and protections.

STATEMENT OF ANDREW J. CEBULA, VICE PRESIDENT, PLANNING & ENGINEERING SERVICES, CANAC

My name is Andrew J. Cebula. I am a licensed professional engineer and Vice President, Planning & Engineering Services at CANAC, Inc. My business address is 3950 Hickmore Street, St. Laurent, Quebec, Canada H4T 1K2. I have 25 years of experience providing technical expertise for railway operations and transportation planning needs throughout the industry. Railroad clients for whom I have worked recently include Union Pacific Railroad Company ("UP"), The BNSF Railway ("BNSF"), Canadian National Railway, Amtrak, Metra, government commuter and passenger agencies in the United States and Canada, and railways in Colombia, Malaysia and Australia.

*The chart has been retained in committee files.

I earned a Bachelor of Science degree in Civil Engineering from the University of Calgary in 1981. In 1999 I was also Adjunct Professor on the Faculty of Engineering at McGill University in Montreal where I co-taught a course in railway operations and capacity planning. Subsequently I have provided lectures on rail and transportation engineering at McGill University.

CANAC Inc., a subsidiary of Savage Companies of Salt Lake City, UT, is a railway transportation, engineering and consulting company based in the Montreal area that provides a full spectrum of rail planning, engineering and operations services, ranging from the design of rail operations and infrastructure to actual implementation and operation.

CANAC has in excess of 15 years of extensive experience in the evaluation of capacity and operations for coal train movements originating out of Wyoming's Southern Powder River Basin ("PRB") Joint Line. In this work, we have provided assistance to the rail carriers and minesite operators since 1991 and have actively been involved in five studies of the PRB Joint Line, which is currently owned by UP and BNSF. I served as project manager/director for all of these studies.

REVIEW OF CANAC'S 1999 SOUTHERN POWDER RIVER BASIN JOINT LINE STUDY

In 1998/1999, CANAC had been mandated by both the BNSF and UP railroads to perform a capacity and operational analysis of the Powder River Basin Joint Line trackage between Donkey Creek and Shawnee Junction under then current and projected tonnage traffic levels. The objective was to identify, assess and recommend changes to infrastructure and operations in order to move annual coal tonnages of 313 million tons of coal (mmT), 350 mmT and 400 mmT. The study would integrate the complex relationship between mine production, mine-railroad interface and railroad operations for coal originating onto the Joint Line.

As we started the project and evaluated operations under current 1999 tonnage levels, it was evident that the previous investment in railway infrastructure by the railroads had been commensurate with tonnage growth and had seen significant improvement in the ability of the railways to deliver trains to and from the mines to what CANAC had seen in our previous 1996 study. The Joint Line in 1999, in terms of capacity needs, was in pace with current and projected tonnage growth. With 1999 actual tonnage of 279 mmT, existing mainline capacity was sufficient to handle traffic.

This time, capacity-related issues being experienced day-to-day on the Joint Line indicated that the system capacity constraint had now switched from the railroads to the minesites. Issues such as increasing train on-site times at the minesites and limited holding capacity for trains on-site were causing inbound trains to hold on the mainline awaiting landing slots to open. The resulting mainline congestion was limiting the ability of the overall system to handle traffic demand. This necessitated a more comprehensive examination of minesite train loading processes and infrastructure by CANAC. With the cooperation of individual coal producers, a detailed analysis of coal processing capacity for each minesite was performed—from crusher to loadout chutes, as well as an evaluation of on-site staging, loop track layouts and standing capacity.

The key to growth was to ensure and maintain mainline fluidity with a steady flow of trains to the minesites. It was recommended that the individual minesites and railroads add capacity by the construction of additional mainline track on the Joint Line and train landing spots at the minesites based on projections towards 350 mmT and 400mmT levels.

To achieve a 350 mmT pace, CANAC recommended the completion of triple track on the south end of the Joint Line (Walker to Shawnee Jct—14 miles of 3rd track). This was completed in the Spring of 2005. Shortly thereafter to go beyond this 350 mmT pace and towards a 400 mmT pace, it was recommended that triple track be constructed from Reno Jct south to milepost 58 (19 miles of 3rd main). The Joint Line would be a complete triple track operation south from Reno Jct all the way to Shawnee Jct where the BNSF and UP diverge onto their respective routes. This last recommended segment will be completely functional in late summer 2006. Thus a total of 33 miles of additional mainline track will have been built since our 1999 study.

Accordingly, to allow the Basin to function, particularly during operational exceptions, under a 350 mmT pace required that the minesites build train staging capability with the recommended construction of an additional 20 landing spots at their respective facilities. By late summer 2006, 17 of the 20 recommended spots will have been constructed. Internal mine process changes and enhancements during this period has further contributed to train processing productivity gains within certain facilities.

Other specific productivity gains included the handling of longer and heavier trains throughout the Joint Line. Between 1999 and 2006, the increase in train sizes resulted in a 10% train handling productivity gain. That is, for the same number of trains handled in 1999, the system could now process an additional 10% more tons originating from the PRB Joint Line coal producers. In 1999, 60 loaded trains per day throughout the year, would have produced 293 mmT, whereas in 2006, under this same volume (60 loaded trains per day), 324 mmT of coal would have been processed. As such, building track was not the only capacity solution. Railroad/minesite initiatives such as longer and heavier trains, the use of AC locomotives, distributed power, aluminum coal cars, construction of 25 foot track centers thus alleviating the impact of maintenance to train operations on adjacent tracks, third party loading at minesites, faster minesite coal processing/crushing capabilities and better mine/railroad slotting protocols have all contributed to further capacity improvements throughout the Joint Line coal operations.

REVIEW OF CANAC'S 2006 PRELIMINARY SOUTHERN POWDER RIVER BASIN
JOINT LINE STUDY

With coal demand and projections continuing to be strong, CANAC was once again mandated in the Fall of 2005, by both the BNSF and UP to further perform an operational and infrastructure assessment of the PRB Joint Line under further aggressive growth expectations to ensure that the Joint Line rail system remains ahead of the 'capacity curve'. Whereas the actual growth between 1999 and 2005 was 46 million tons of coal (279.3 mmT in 1999 versus 325.3 mmT in 2005), based on detailed meetings with the individual coal producers in late 2005 and early 2006, tonnage was expected to reach 490 mmT by 2012, representing a growth of 165 mmT (50% growth) between 2005 and 2012.

Although the long-range forecasts typically provided by coal producers, provided as annual tonnages over a timeline from 5 to 7 years, it is generally recognized that the cumulative tonnage forecasts for all mines tend to be somewhat optimistic. For example, in 1999 the projection for 2004 was 359 mmT—a level that will only be reached in 2006. For this reason, for the Joint Line capacity analysis purposes, CANAC uses the projections to create a series of tonnage thresholds, rather than time-based thresholds. The result of which is an incremental mainline infrastructure capital investment plan designed to support each tonnage threshold, independent of the year each threshold is reached.

The complexity and level of interaction of trains running over the Joint line under such growth conditions has resulted in an extensive analysis of the forecasted operations, interaction with and at the minesites and under appropriate track maintenance conditions. As such preliminary recommendations for both minesite and railroad infrastructure have been developed and presented to the coal producers and railroads. Detailed simulations, using sophisticated railroad modeling techniques have allowed us to develop appropriate operational and infrastructure recommendations to ensure mainline and minesite operational fluidity even under mainline track maintenance outages. Whereas in 2005 there were in the order of 100 daily train movements at the south end of the Joint Line, there will be in the order of 135 to 150+ train movements at the 490 mmT level. Such a complex operation requires the harmonizing of specific trainsets to specific minesites and will continue to be a logistical and operational challenge for both the railroads and coal producers as a collective operation.

Preliminary results have indicated that further additional buffer capabilities (landing spots) be built at the minesites (a total of 14 additional slots with the possibility of increasing to 20). Additional mainline track will also be needed to accommodate the 2008/2009 tonnage projections. Preliminary indications have identified that an additional third track (in the order of 20-25 additional miles) be built at the north end of the Joint Line, to service the northern mines and to allow operational fluidity for through train movements and during track maintenance outages. In addition, the construction of a fourth main track is recommended in the area between Logan Hill and Bill Yard (in the order of 20-25 miles additional miles), again to service the minesites and to accommodate fluid train movements, particularly during track maintenance outages. Both the UP and BNSF have since issued a press release on the 8th of May 2006 to advance engineering design and construction for this additional 40 plus miles of new track construction that will allow them to keep pace with railroad operating capacity for the projected growth in demand for SPRB coal in 2007 through 2009.

Over the course of the next several weeks, CANAC is in the process of fine-tuning these preliminary recommendations and finalizing the final track configuration 'blue-print' beyond 2008/2009 as tonnage is projected to grow to 490 mmT annually.

The sheer volume of train movements and inherent level of complexity of operations on the Joint Line will require that all components of this system are in sync with each other to ensure a viable and dependable flow of coal traffic. Additional track construction both on the mainline and at the minesites is being evaluated to further ensure that Joint Line capacity and operational fluidity is maintained to meet the demands of the forecasted coal traffic originating from Wyoming's Southern Powder River Coal Basin Joint Line.

